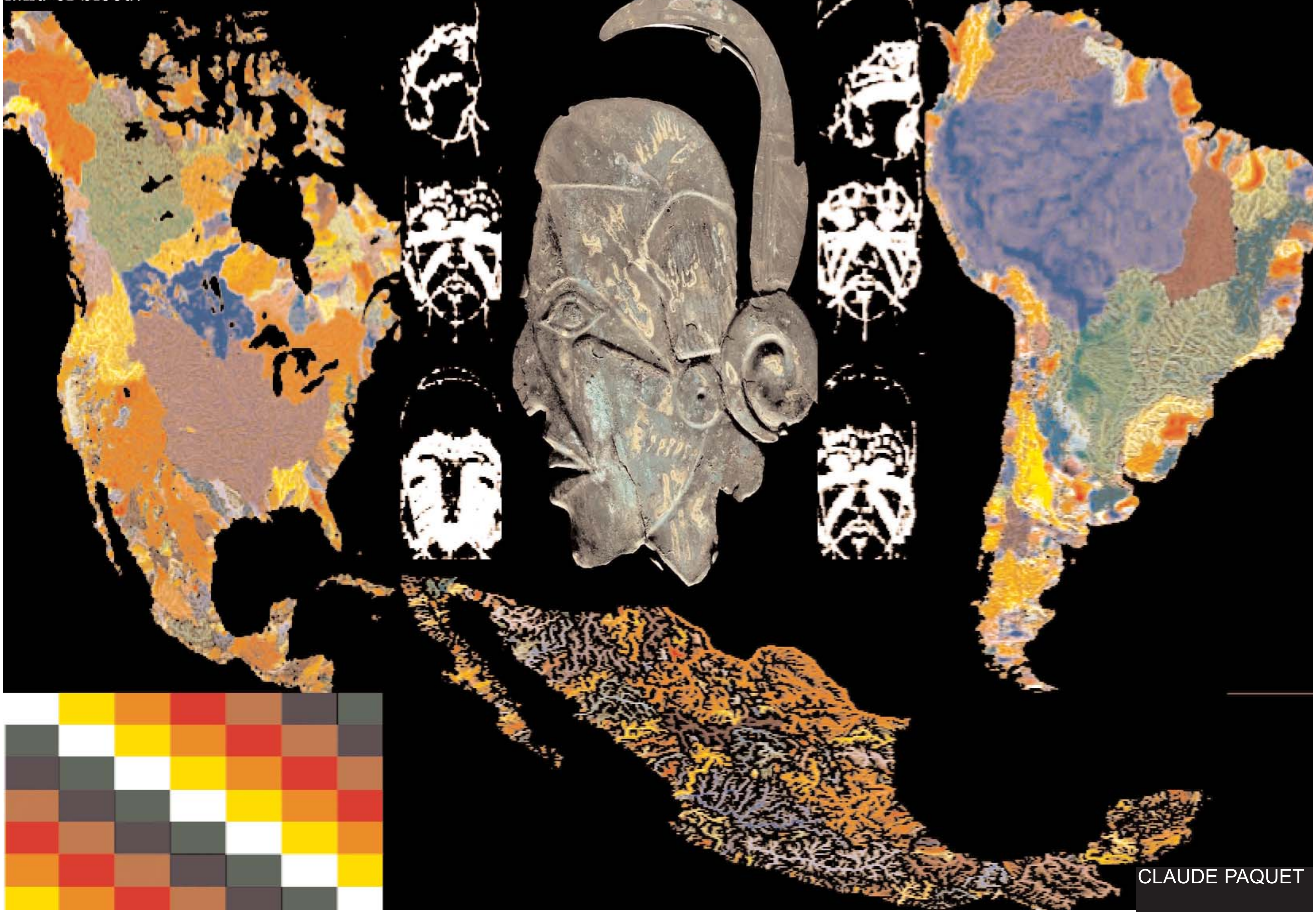
ABYA YALA

Abya Yala comes from two words: "Abe" which means blood and "Yala" which means space, territory. It would therefore mean a land of blood.

This is why Abya Yala, a vital and mature land of blood, always young ... is the designation chosen to name the Native American continent.



CLAUDE PAQUET

ABYA YALA ANCESTRAL

(PRÉ-COLOMBIAN)

Abia Yala or Abya Yar (land of blood, young land, still being born): Name that the Kunas give to the American continent. According to the oral history of the Kuna people, the Earth has, until today, gone through four historical stages of its evolution. A different name of the continent belongs to each stage: Gwalagun Yala, Dagargun Yala Yaladingua Yala and finally, Abia Yala, land of blood in its broadest sense.

Etymologically, the word Abya Yala comes from two words: "Abe" which means blood and "Yala" which means space, territory. It would therefore mean a land of blood. However, it has other meanings such as: land in full maturity, land of vital blood, land of life, noble land that welcomes everyone. Territory also saved, preferred, loved, and as a land in permanent youth. The traditional authorities, the Sailamar (great poets) argued as follows: "they all use the name of America for our continent, but we have deposited the real name which for us is Abya Yala, and which means land in permanent youth, land blood ... Placing foreign names on our cities and continents is tantamount to submitting our identity to the will of our invaders and their heirs ". Since then, indigenous peoples and their organizations, as well as social movements and cultural groups in Latin America and other regions of the world, use the name Abya Yala in their speeches and political documents.

And that is why Abya Yala, a vital land and mature in blood, ever young ... is a designation that is gaining strength and adopted by many peoples every day. Calling America Abya Yala, they also recover the struggle for the affirmation of their territories in homage to the Kuna; the pioneers with their revolution of 1925, and the creation of the first indigenous autonomy in 1930.

Second, the use of the term "Abya Yala" instead of "New World" or "America" has ideological implications indicating support for the rights of indigenous peoples. Today, Abya Yala has become a universal concept for indigenous peoples, a self-designation, as a counterpoint to America and gives a sense of unity and belonging. It is part of a process of political identity construction, part of this process of decolonization of thought, which is one of the characteristics of this new cycle of struggles and movements of indigenous peoples. Abya Yala is a symbol of struggle, construction and recovery of territories and new political lexicons, because language also territorializes, generates identity, gives its own name; it constitutes a form of appropriation of space, of its history, of its worlds.

This story begins thousands of years ago, this story is long, it is rich, it is full of wisdom, of lessons for life, for leading our people properly, for defending Mother Earth. These wisdoms were bequeathed by great personalities, men and women, who left us the "Anmar danikid igar" or our history linked to that of Abya Yala.

REVOLUTIONNAIRES KUNA

Le svastica kuna symbolise la légende de la poulpe KIKIR dont les tentacules en tourbillonnant aux quatre points cardinaux donna naissance à un arc-en-ciel puis au soleil et à la lune à l'origine du monde.
(aucun lien à faire avec l'idéologie nazie)

MANIDINIWIEBINABBI
1907 - 1993

MANIBINIGDIGINYA
1907 - 1973

CEFERINO COLMAN
1897 - 1983

NIBAGINYA CABÚ
1882 - 1974

AMMA IED
1908 – 1999

NIGA KANTULE
1880 - 1977

OLOMAILI
1881 - 1974

IGWANAISI
1890 - 1972

IGWANABIGINYA
1897 - 1989

NUGELIBBE
1902 - 1980

OLODEBILIGINYA
1892 - 1970

YABILIGINYA
1882 - 1972

IGWADINGIBBILER
1890 - 1973

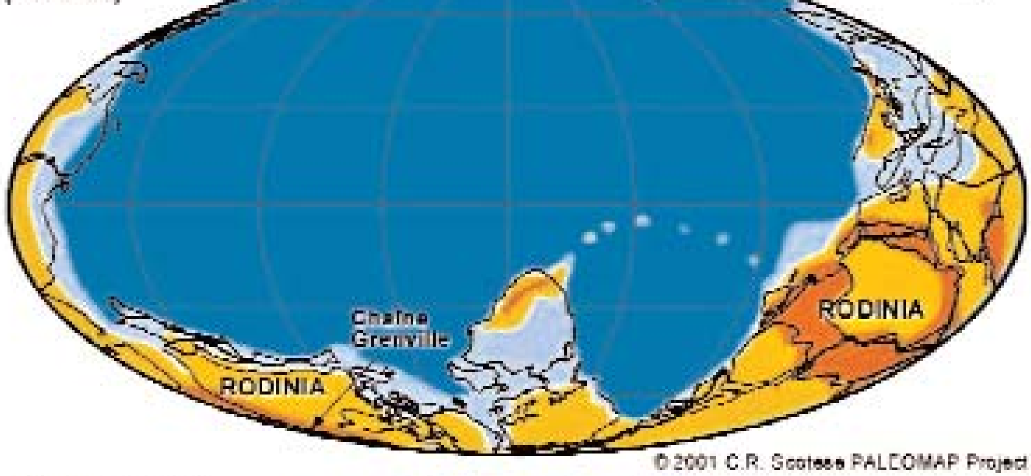
ILLUSTRATION : OLOGWAGDI

THE ḰUNA REVOLUTION (1925)

The Kuna Revolution began on February 25, 1925 when an armed group attacked Panamanian police who had participated in the violent crackdown on Kuna cultural practices and abused people from various communities. The Kunas rose up in arms to counter the assimilationist policies of the national government. The first step in a long process of identity affirmation and territorial claims, this uprising is known today as the Kuna Revolution (Revolución Dule). After the uprising, the area was recognized as the Guna Yala reserve with autonomous status. They were the first indigenous peoples to be so organized in Panama. The autonomous status of the Kuna was officially recognized in 1930 in response to political pressure from the Kuna rulers. The Comarca de Kuna Yala was established in 1938, under the name of Comarca de San Blas. The comarca was formed from the provinces of Colón and Panamá. The governmental structure of Kuna Yala is defined in the Carta Orgánica, of Law 16 of 1953. They are currently governed by the traditional authorities.

LA FORMATION DE ABYA AYLA

Fin Précambrien
(- 600 Ma)



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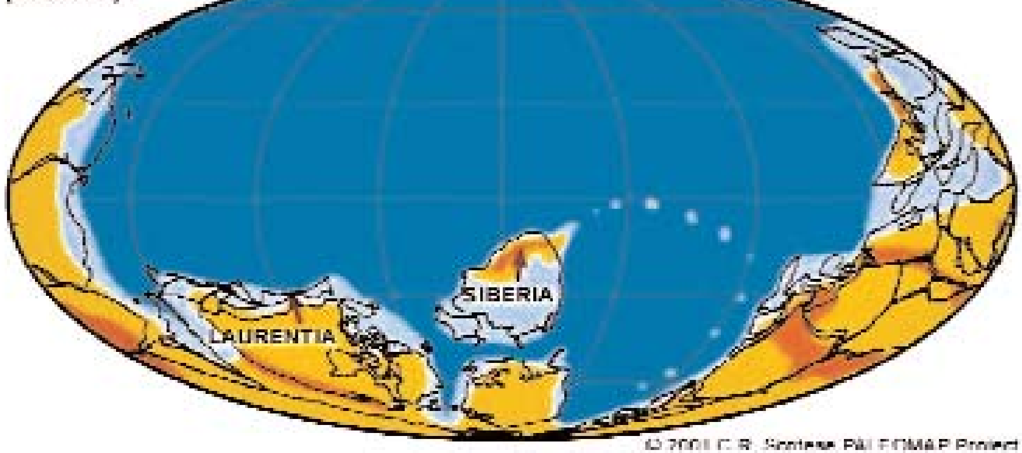
Fin Précambrien
(- 560 Ma)



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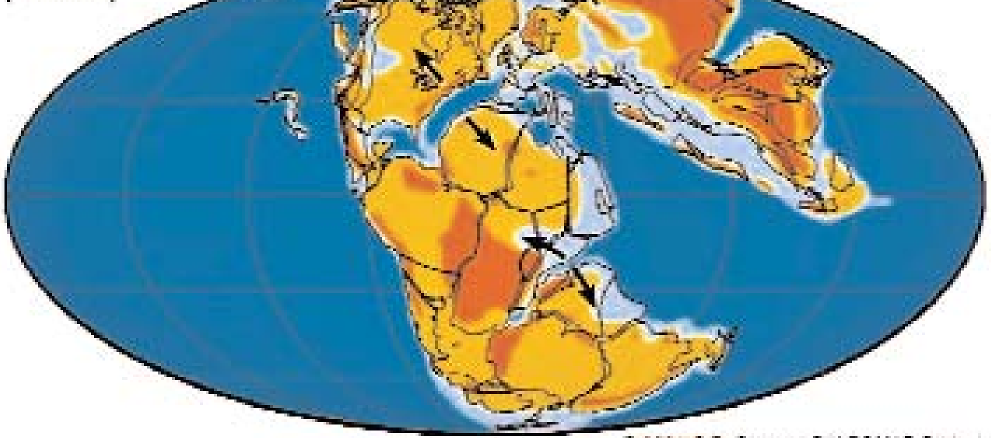
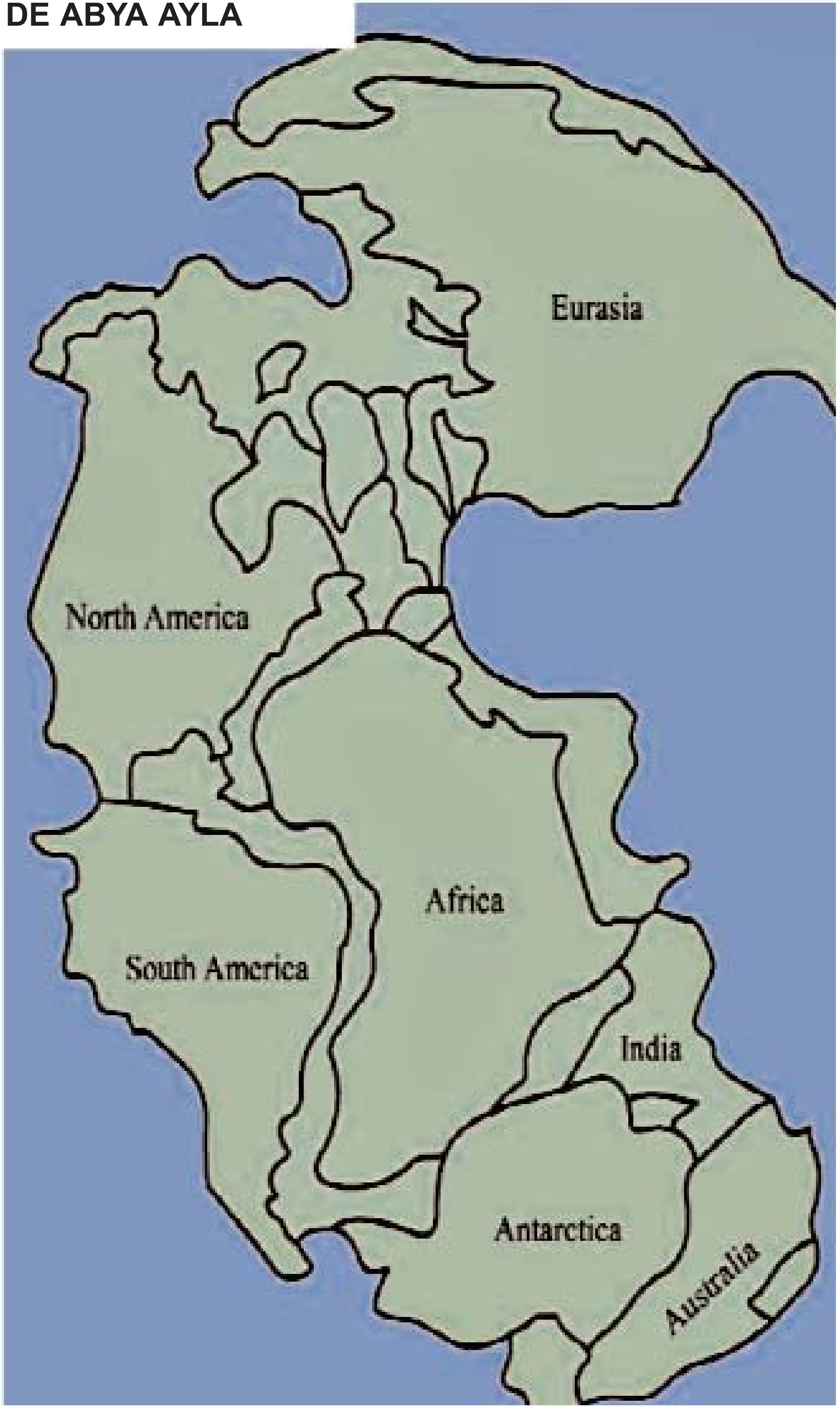
Fin Jurassique
(- 160 Ma)

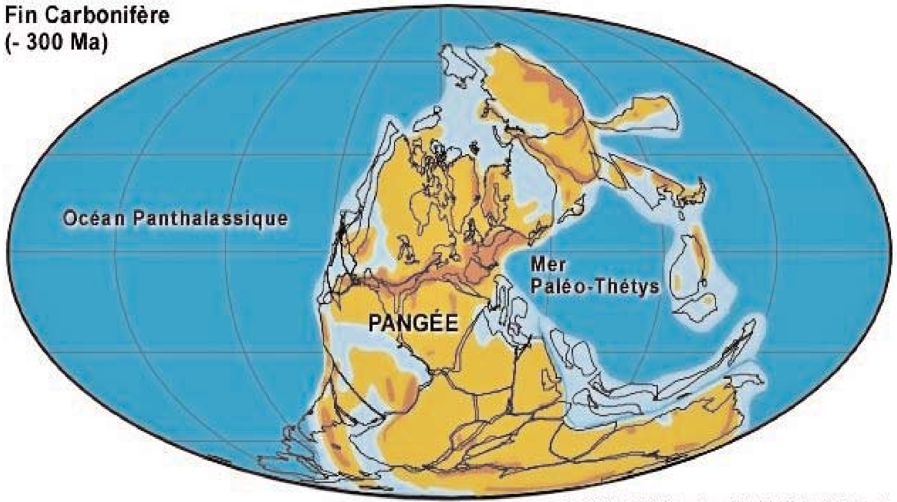




ABYA YALA PANGEAN

THE PANGEA

Over the past 3.5 billion years, several supercontinents have formed and shattered, radically altering the history of our planet. Over a century ago, scientist Alfred Wegener proposed the notion of an ancient supercontinent, which he named Pangea. As proof, fossils, identical plants - some extinct - are also found on continents today very disparate. The same is true for mountain ranges: the Appalachians in the United States, and the Atlas Mountains in Morocco, were once part of the Central Pangea Mountains. They may have been formed by the collision of the supercontinents Gondwana and Laurussia. Near the equator, the (future) Pangea begins its formation with the coming together of Gondwana and Laurussia. The Panthalassa Ocean covers the rest of the planet. Some minor oceans exist: Paleotethys, Prototethys, the Rheic Ocean, the Ural Ocean closed by the collision of Siberia and Baltica.



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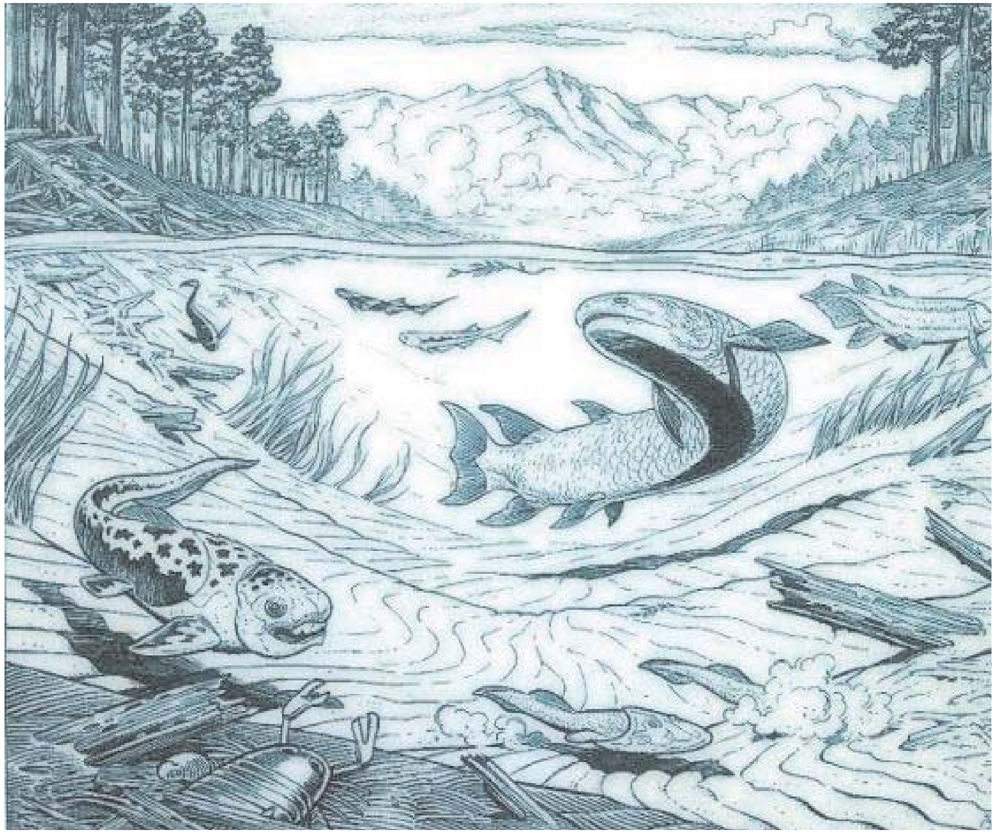
WILDLIFE

A major mass extinction, the Devonian Extinction, takes place in the Upper Devonian, between the Frasnian and the Famennian, which affects up to 70% of living species. The cause of such an extinction conjectured as of extraterrestrial origin, a meteorite impact, credible traces of such an impact have not been discovered. It would probably be a "giant plume", an ocean of magma that pierces the earth's crust, emerging from the bowels of the Earth. At the beginning of the Devonian period, the climate was very hot, then towards the end the temperature will cool quietly, thus pushing the marine species to come out of the water to warm up, it is also during this period that the marine species started to have fins and lungs helping them to get out of the water and then breathe.

MARINE BIOTOPES

The sea level is high. Marine fauna is dominated by ectoprocta, various kinds of brachiopods and corals. Trilobites are still common but less diverse than in previous eras. The large plate fishes, the placoderms, were joined during the Middle Devonian by the first fish with scales, which then diversified. The first sharks appear at the beginning of the Devonian. Fish with bones, some of large size, soon join them.



During the Late Devonian, our ancestors, the lobed-boned fish evolved into the first tetrapods, such as Tiktaalik roseae, which walked the land at the end of the Devonian. Ammonoidea appear in the late Devonian or at the end of the Silurian but only become abundant during the Mesozoic. The most evolved forms of graptolites are disappearing.

Comparable to the African Namib Desert and the Lake Eyre basin in Australia, Pangea's climate - it seems - was generally arid with short, recurring wet spells that sometimes included huge floods.

TERRESTRIAL BIOTOPES

On earth, Silurian bacteria and algae are joined during this period by primitive plants that created the first succulents and harbored arthropods, such as moths and scorpions, and myriapods, arthropods were already present on earth before the Devonian. The first fossil traces of insects date from the late Devonian. At the end of the Devonian the first amphibians and arthropods were firmly established on earth. In the Upper Devonian forests of primitive plants exist: lycophytes, sphenophytes, ferns and progymnosperms appeared. Most of these plants have real roots and leaves. Ferns speciated into giant tree-like shapes. At the end of the Devonian the first seed plants appeared. The rapid emergence of so many different plant groups is known as the Devonian Explosion. Primitive arthropods co-evolve with these various plants. The evolutionary dependence between insects and seed plants is characteristic of the modern living world and has its roots in the Devonian.

To colonize dry land, you have to be able to reproduce there. How to do without the ocean? Plants and animals show a vivid imagination. You don't erase your origins so easily, especially when it comes to reproducing yourself. A vestige of this mania that the fish had for releasing their semen into the water, the first amphibians, after millions of years of land colonization, still return to the swamp, like the current frogs, to mate and lay their eggs.

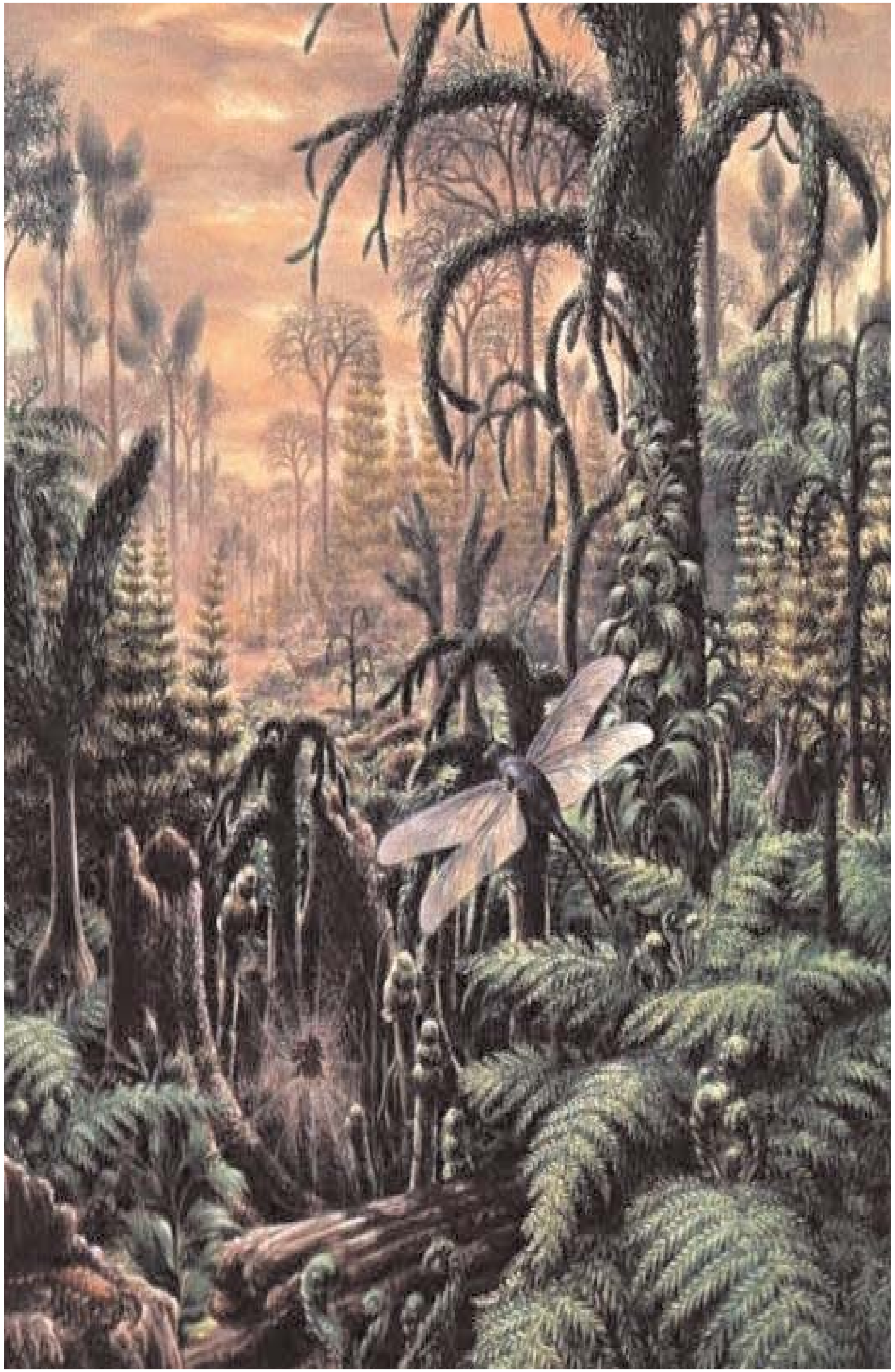
The other branch of the tetrapods - the amniotic vertebrates - which will later give rise to the famous dinosaurs, birds or mammals, follows a more daring path. To better free itself from the primordial ocean, it recreates it artificially. "These animals invented the egg which can be laid out of the water", explains a somewhat enigmatic Philippe Janvier, at the National Museum of Natural History.

What does this so original egg contain? A membrane filled with water, the amnion, which protects the embryo and allows it to develop in an aquatic environment. An innovation that mammals have preserved in the form of amniotic fluid and which has allowed vertebrates to leave the shores for good to conquer higher and drier lands.

For plants, exactly the same thing happened: a kind of interiorization of the primordial ocean through what we can call the pollen chamber of the ovum. "

Because like amphibians, the first terrestrial plants remain closely linked, for their reproduction, to the aquatic environment. They are cryptogams, a large group of plants without flowers, the best known representative of which, the fern, still needs water today to reproduce; if only morning dew. Why Because its antherozoids, equivalent to spermatozoa for plants, must swim in the external environment, thanks to their vibratile cilia to the oosphere, or female gamete, that one of them will fertilize. that which took place, millions of years before under the sea depths. The appearance of the ovum will allow the plants to free themselves from the primordial ocean by recreating it as will do later the vertebrates amniotes. New ferns. so called ferns with ovules which will prosper a few tens of millions of years before extinction, start to produce new female spores which germinate to constitute a closed organ - the ovum - in which the oospheres will develop. Male spores , they constitute grains of pollen released by the wind. Those who manage to attach themselves to the ovum release antherozoids, which will have to swim in the drop of water bathing the pollen chamber, to meet the oosphere. A simple droplet for the ocean.

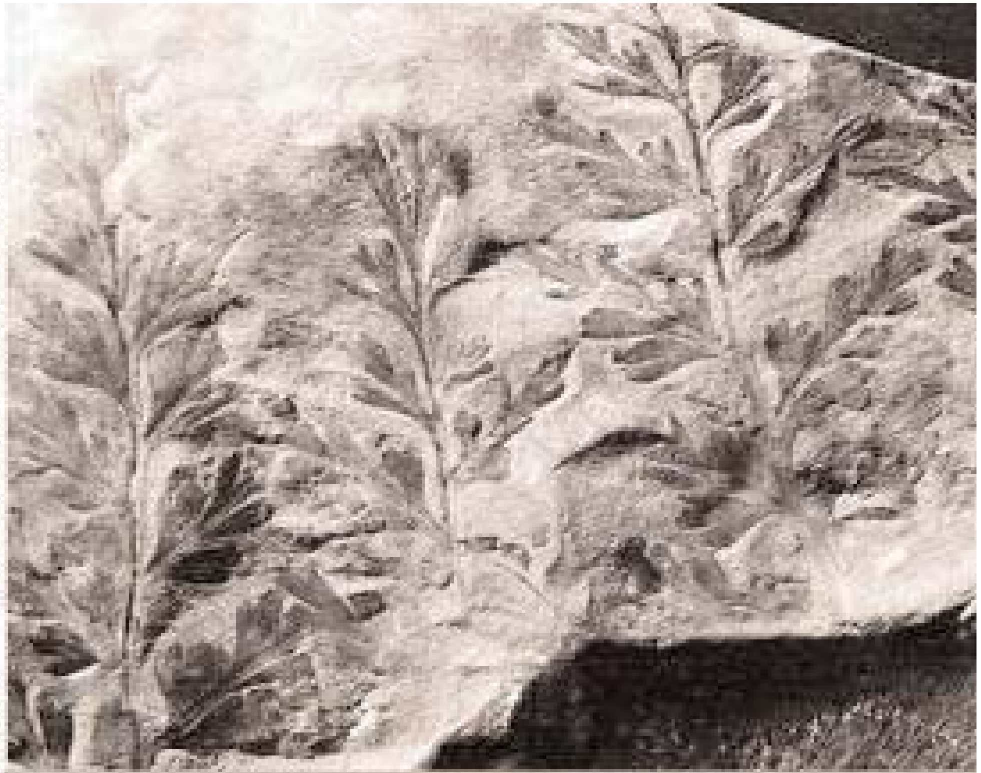
We had to wait for the phanerogams, 300 million years ago, to see terrestrial plants permanently cut off the bridges with their aquatic origins. In these plants that appeared in the Carboniferous - and which ended up protecting the embryo in this veritable safe that is the seed - the male reproductive nucleus no longer needs to swim. Nor even, for that matter, to move around by itself: it is delivered "turnkey" by a pollen tube which makes its way into the tissues of the female organ. For the first time in the history of life, an organism can reproduce in a completely dry environment. Animals are still incapable of it. These phanerogams will then perfect the process by protecting the seeds in a fruit, like the seeds of an apple. A refinement that will make these so-called angiosperm phanerogams, the undisputed masters of terrestrial flora



JOGGINS CLIFF - NOVA SCOTIA - CANADA

About 300 million years ago, today's eastern shore of Chignectou Bay, north of the Bay of Fundy, was a tropical rainforest near the equator. Known as the "Coal Age Galapagos", the Fossil Cliffs of Joggins provide a remarkable example of the evolution of life on Earth during the period known as the Pennsylvanian Period of Earth's history. paleontological has been recognized since the mid-19th century, when Sir Charles Lyell declared that the "forest of fossil charcoal trees" exposed in the cliffs along the seafront was "the most wonderful phenomenon I have possibly seen." Born in Scotland, Lyell is the father of modern geology. His examination of this fossil forest resolved the then hotly debated theory of the origin of charcoal, confirming that charcoal was formed in place from decomposed material from ancient forests. These 300-million-year-old trees were mostly lycopods, or scale trees, so called because of the shape of their bark. Ancestors of today's club mosses, these giants of the Coal Age (Carboniferous) rose up to 30 meters high.

Lyell was accompanied by a young Nova Scotian, William Dawson, who later became Sir William and the foremost Canadian geologist of the 19th century. In 1852 Lyell and Dawson discovered the remains of the oldest known fossil reptile in a fossilized tree stump. A century and a half later, this lizard-sized animal called the Hylonomus lyelli, or "forest dweller," still remains the oldest truly terrestrial creature ever found. It was apparently trapped in a hollow tree stump, where it was preserved when sludge from a meandering river system was washed away in what Dawson calls a "bizarre deposit." The site contains the most important vestiges in the world of the two characteristic elements of the "coal age": the terrestrial tetrapods, in particular the first reptiles and the first amniotes, and the "humid carboniferous forests" which served as their habitat. The emergence of amniotes, the first vertebrates to acquire the ability to reproduce outside of water, was one of the most significant events in the history of life on Earth.



The first forms of life, probably bacteria, would have appeared almost 3.5 billion years ago. 97% of all our atoms are of stellar origin, therefore extraterrestrial. There are 600 million years of organisms with flat bodies, algae and vegetable mosses appear. Then marine invertebrates, which thanks to the intergalactic calcium produced by supernova explosions whose cosmic clouds reach the Earth, begin to mutate towards vertebrates : crustaceans and fish. Without calcium, no bones and teeth, no skeletons, no vertebrates.

BURGESS SCHIST

Discovered in 1909 by paleontologist Charles Doolittle Walcott, the Burgess Shale are sedimentary rocks formed from particles of clay and silt deposited along a reef about 505 million years ago, that is, say just after the famous Cambrian explosion. The schist layer is embedded in a wall of the Rocky Mountains in Yoho National Park, on the western slope of Mount Stephen in Canada.

These shales have become famous because they contain extraordinarily well-preserved fossils of animals living at that time and which today seem very strange to us. These fossils are particularly remarkable because we see the prints of the soft parts of animals of the time, and in 3D, which is extremely rare. Charles Walcott initially claimed that the organisms of Burgess' fauna belonged to extinct categories, within groups of animals that still exist today. However, many of these animals seem rather bizarre to us, and the detailed descriptions which have been given subsequently have highlighted the difficulty of applying the definitions corresponding to modern groups to them.

Some, and especially Stephen Jay Gould, saw it as proof that the Cambrian explosion was a period of experimentation, since the organizations of that time had many more organizational plans than they do today. (and thus testified to a greater evolutionary disparity). As luck would have it, only some of these organizational plans survived, constituting the branches that we know today. If Gould was right, and if the bizarre creatures of the Burgess Shale - which he called "strange wonders" - were indeed extinct branches, the Cambrian Explosion was a time of evolutionary innovation on a much greater scale than 'we never suspected it before.

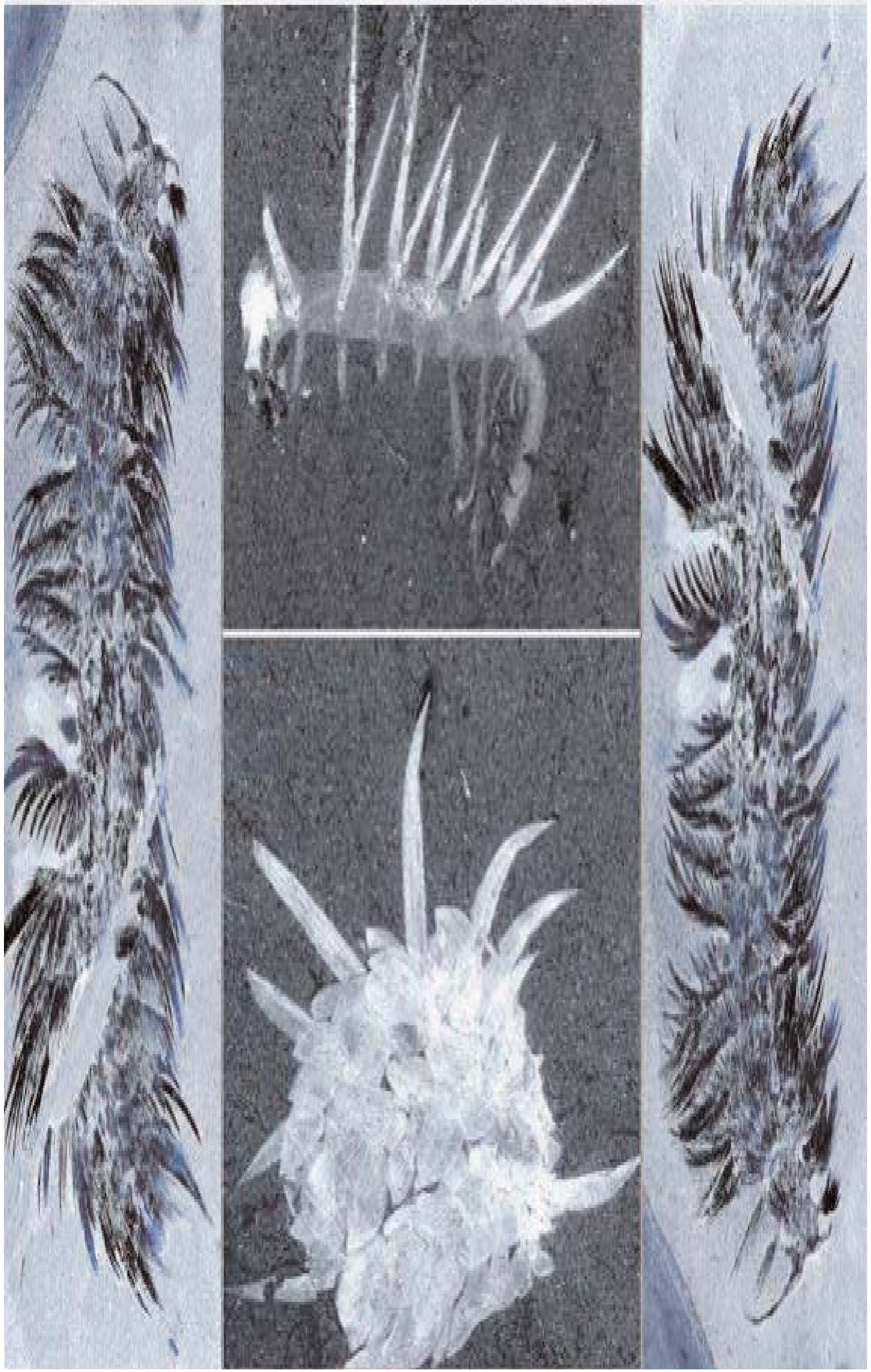
The researchers analyzed the shales millimeter by millimeter and concluded that these sedimentary rocks did not form slowly but as a result of a series of sudden mudslides rapidly burying the animals that lived at the base of the reef. The mud seeped into the organs and thanks to thin layers of sediment, they separated from the body in different micro-levels. This is why a certain three-dimensional structure was preserved, even during strong compressions of the sludge. In addition, by suddenly isolating the soft parts from the oxygen contained in the water, this rapid burial slowed down their decomposition. This is why, today, scientists can study there at leisure more than 65,000 specimens belonging to 120 species.

The Burgess Shale provides direct fossil evidence of the appearance of a series of animal groups in mostly unoccupied marine environments before the Cambrian explosion. This evolutionary radiation occurred at the same time as a sudden increase in the complexity of ecosystems, marked by the emergence of new types of interactions between species resulting from ecological innovations - such as novel modes of food and locomotion.

The explanation for the Cambrian explosion may lie neither in the environment, nor in regulatory genes, but in the complex ecological interactions between animals. The explosion could have resulted from coevolution, the different inhabitants of the Cambrian ecosystem having been "pushed" to evolve by changes that have occurred within this ecosystem.

For example, the appearance of predators could have stimulated the evolution of the skeleton (including mineralized plaques) for protection or, in the case of swimming, as a means of escape. Before the predation spread, various "experiments" of organization plans could have taken place, in a context of interactions between species probably still rather limited. The installation in hitherto unexploited environments was to allow the survival of even poorly adapted organisms, perhaps endowed with one of the curious organizational plans observed in the Cambrian. The interaction of organisms with the environment has undoubtedly created new ecological niches (particular places occupied by species in an ecosystem).

One can think of the appearance of zooplankton, bringing organic matter to benthic organisms, or that of burrowing, which made possible new interactions with the sediments. But, after tens of millions of years, the proliferation of organisms occupying these niches led to competition which eliminated those endowed with less well-adapted organizational plans, leaving only the ancestors of the current branches. By the end of the Cambrian Explosion, the fundamental ecological structures of modern marine ecosystems were firmly established.



Miguasha

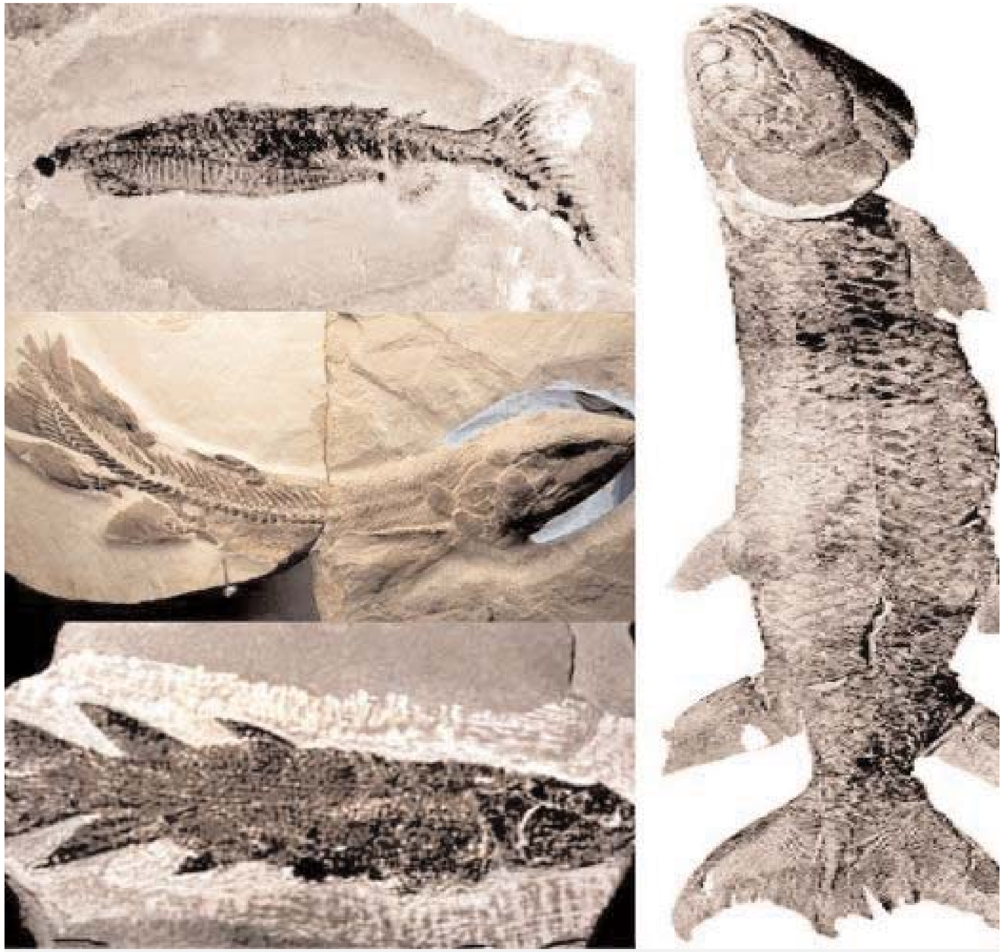
The Micmacs of Gaspésie called the Megouasag sector: red cliff. Having become Miguasha over time, the place is still so red. At the western end of Baie-des-Chaleurs, on the north side of the Ristigouche River, Miguasha owes its red coloring to the geological formation of Bonaventure. But the place owes its fame rather to the formation which is just below, at the level of the beach. For 125 years, the Escuminac Formation has been famous among paleontologists around the world. And for good reason: it has delivered thousands of surprisingly well-preserved fossils, mainly fish that lived in the Devonian, 380 million years ago.

Around 360 million years ago, the eusthenopteron foordi, the famous fossil fish discovered around 1960 in Miguasha in the Gaspé Peninsula in Quebec possessing terrestrial respiration and being able to crawl, undertakes the difficult and perilous exit of the water and finds itself in a totally different where ferns, among others, reach over 30 meters in height. During this period of the Upper Devonian, Miguasha was a huge lake of fresh water with low oxygen levels and poor in bacteria, which would have facilitated the fossilization of species.

The continental drift has only just started. All the continents are united in a compact mass under the equator. Comparisons between the specimens found at Miguasha and those from Scotland, Greenland, northern Germany and Russia indicate that these fossils are the first biological evidence demonstrating that the continents were united between them at that time and had a climate of tropical type. Is it Earth, this planet with unrecognizable continents, whose northern hemisphere is covered with an endless ocean? The six continents that we know, the two great oceans, all that does not yet exist. And the climate seems warmer than today ... there is no ice at the North Pole! Even the days do not have the same length! This unique continent, Pangea, was not subsequently dislocated. Welcome to the Upper Devonian. For this visit to Earth 380 million years ago, we must forget what we are used to seeing on our planet and put ourselves in the shoes of a space traveler who arrives on a new planet. The change of scenery is indeed rather complete.

A glance at living species is also confusing. If the tropical regions are in places covered with forests, the trees they contain are not very diverse. On the ground, on the other hand, small non-woody plants show a greater variety. And you have to be very careful to see animals. Hidden in the litter on the ground, a few invertebrates are living on their own. But in the water it is another story.

Invertebrates are of course numerous, but fish are also abundant and varied. But they look funny and few of them look like today's species. With good reason, the Devonian has been dubbed the Age of Pisces, in reference to the evolutionary proliferation they operated during this period.



Today we find descendants of the "Dipneuste", another lungfish that can crawl, in Australia, Africa and South America.

More incredible still, in addition to breathing, our first ancestor moves by relying on articulated bones (our current limbs, legs and forearms). This scientific discovery prompts us to a whole philosophical questioning : We are indeed descended from fish.

Yes, man is descended from fish and evolution over several million years became more complex: amphibians, dinosaurs, birds, primates (50 million years ago) and finally the arboreal Australopithecus (5 million years ago). years) our primate ancestor followed by Homo erectus (one million years) and Neanderthals (300,000 years) and finally Homo sapiens, our immediate 40,000 year old ancestor.

Thus emerges an unavoidable constant, the goal of life is to increase the Consciousness of living things and each cell continually exchanges information with its environment to increase its "memory points". The construction of the human brain whose 1013 neurons, once deployed in the cerebral connective tissue, are connected by 1015 synapses is a performance that defies all imagination. Following the Broglian theorem, it goes without saying that henceforth, creation and evolution go hand in hand.

Creation and evolution are then presented as two infinities : the Universe as infinite magnitude and the nature of our terrestrial world as infinite of possible temporal forms and diversity of living things. Two apparently contradictory universes and yet united within a single totality : "vital impetus" and "creative evolution" forming a Whole itself in "continuous creation of unforeseeable novelties" as the philosopher Bergson writes in Creative evolution.

The fauna of Miguasha is one of the most representative of the Devonian. It is recognized as a window on the branching of vertebrates during the Age of Fish, but it also testifies to the branching of invertebrates in the aquatic and terrestrial domains, at this pivotal time when the animal kingdom left the aquatic environment to make the conquest of the emerged continents. Since the first recorded excavations, in the summer of 1879, more than 17,000 specimens of vertebrates, invertebrates and plants have been extracted from the cliff. Of this number, around 10,000 specimens are in the collection of the Natural History Museum of Miguasha National Park.

The rest is dispersed in the collections of some thirty research centers, museums and universities in Canada and in several countries around the world. This fauna includes around twenty species of fish that are essentially endemic, that is to say that they are not found in other regions of the globe. These species bear witness to different stages of vertebrate evolution and they belong to different groups, many of which are now extinct. They include some of the most primitive forms as well as some of the most specialized and sophisticated in the evolutionary history of fish. A whole panoply of forms coexist. With large carnivores with powerful bodies and sharp teeth, small groundfish filtering the mud to find their sustenance, fast small spiny fish living in schools, the ecosystem has as many predators as it does prey.

At the foot of the newly formed Appalachians, a large estuary stretches out and serves as a link between a river that originates in the mountains, and the sea that stretches further. The water is rather poor in oxygen, so having lungs seems to be the norm in many species of fish. The oxygen that they cannot get through the gills, they will draw it from the air in a few puffs. So much so that some species of Miguasha were possibly able to survive out of the water for a short time, and perhaps even crawl along the shore using their strong fins to get back into the water. Proof that man descends not only from monkeys but also from fish. Together, these aquatic and terrestrial vertebrates and invertebrates formed an integral part of an ecosystem which has now disappeared but whose traces are sufficiently abundant and detailed for it to be possible to reconstruct it with precision. In terms of numbers, the placoderm Bothriolepis canadensis is the most numerous species. At the Natural History Museum, this species accounts for 28% of the 10,000 specimens in the national collection, a real sanctuary in Bothriolepis! Even a cult fish like Eusthenopteron was represented by 1600 specimens in 2006. And we counted up to 600 specimens per square meter of the small acanthodian Triazeugacanthus affinis on the surface of certain layers! This is to say the very high concentration of fossils found in Miguasha. Such a site is "almost renewable" wealth, since only a small fraction of the formation has been excavated and new outcrops have been spotted inland in recent years. What do the excavations have in store for us over the next few years?

And here are the mythical tales of prehistory come to play the festive disturbance.

When the archaeologist Henry Lothe thinks he recognizes on a primitive fresco in the Thassali desert an astronaut in a space suit whom he baptizes the "martian god", he is mistaken. Because very old scrolls written in cuneiform writing and pictograms discovered by the priest Berosus of Babylon tell that beings endowed with extraordinary powers lived on the shores of the Persian Gulf. One of them called Oannès is a fish living out of water during the day, endowed with reason and who, like us, has an articulate language. Thanks to him, we would have learned to write and to master the arts and alchemy. Amphibian, Oannès retires in the evening to the bottom of the sea until the next day. The story could stay there until the day when a similar story was discovered among the Dogons, an African tribe living in northern Mali who worship Nommos, a fish-god from Sirius who once brought us the civilization. Its brain resembles that of a cetacean, more developed than ours and equipped with sonar, a heritage from its distant aquatic ancestors. Its nose is located just between the two eyes, a heritage from its amphibious times, which then allowed it to breathe while swimming on the surface and being as invisible as possible for hunting. Its nostrils are also vertical and with adjustable closure. It has a large mouth lined with sharp teeth, a heritage from the days when it swallowed marine animals. He communicates by clicks with other marine animals and by articulate language with us. The other type of contact is made in the opposite direction. The spirit of the god-fish, is called by the shaman who controls it. He comes to him and in him. The nature of shaman is then double, both human and animal. We see that permeability is also exerted between humanity and the animal world, whose role is particularly important.

This concept of a permeability between worlds is indeed very often found in beliefs, and this all over the world. It works both ways. As we have just seen, the shaman will be able to go to the other-world during the trance or receive certain spirits.

Here is a text written in 1926 by Ludwig Bolk who writes "that from a point of view strictly of evolutionary anatomy, the monkey is more evolved than man except for his celebratory development." Now let's parallel this text with this legend of the Urus Indians, an endangered Peruvian primitive tribe who thinks they are the degenerate descendants of giant ape-men. Let us now compare, rather synthesize these two elements. That science teaches us that the monkey is anatomically more evolved, that's okay but nothing on the development of the brain. The Urus, on the other hand, think they are degenerate compared to the Ape-men prior to the apes. We can therefore speculate that beings, maybe apes, more intelligent than us existed. Let's call them "The Old Ones" but compared to them, we are in a process of mental retardation stopping in the middle stage of development… degenerate as the Urus believe. Is it possible ? And here is that the most recent genetic research teaches us the discovery of an archaic progenitor hitherto unknown. That there would have been interbreeding a million years ago between this unknown ancestor with Homo erectus who in turn transmits the genes of the unknown ancestor to Neandethals who in turn mate with Hommo sapiens. So these Great Old Ones? A new breed of monkey with an evolved brain of which the aliens would have been the progenitors? What more can be said ! Oh yes ! The Hopi prophecies of the kachinas who saw in these mythological beings extraterrestrials who had truly seeded the Earth in the distant past. What more can we say if not that the great Egyptian pyramids were aligned with the position of the stars of Orion's harness, just as the sacred Hopi villages and sites were also a projection on earth of the stars of the constellation Orion. A technical feat difficult to conceive except to think that the Old ones held a knowledge which came to them from another world. And now the table is set!

For several billion years, living things will make increasingly complex leaps to diversify: the passage from the unicellular to the binary, the passage from the invertebrate to vertebrates, amphibians, dinosaurs, birds, primates and finally Australopithecus. arboreal, our ancestor.

We owe our existence to our perception of colors. It is an integral part of the functions set in motion by evolution to guarantee our survival. Our field of vision has been between 400-800 nanometers for millions of years, since the era of our arboreal Australopithecus ancestors. Why do we see the colors specific to this field? Indeed some animals see infrared, beyond 800 nanometers, others ultraviolet, below 400, not us. Insects, mainly butterflies, recognize a wide range of colors while nocturnal animals, a large part of which are mammals, and diurnal herbivores distinguish a restricted range. Only primates and hominids are exceptions, they are frugivorous and, like butterflies, must perceive a wide range of colors and shapes that correspond to the fruits they need to consume in order to live and those they must reject because dangerous or toxic to their health. We therefore perceive colors and shapes according to our strategy of exploiting natural resources which ensures our survival. In addition, we "color" the other animals and plants of creation according to their usefulness or not, their dangerousness or not, not to mention the use of brilliant adornments between animals of the same species for reproduction purposes. The colors perceived by hominids have a crucial meaning for their own existence: we perceive light intensities that we organize into signs useful for our survival. Colors are manifested through our organs of perception designed according to the needs of evolution. In all animals, the visible spectrum ranges from blue to red. The chlorophyll, which we see green, absorbs blue and red radiations. This means that the photosynthesis that forms the basis of all life on earth takes place in a window that exactly matches that of the visual possibilities of animals. Color is essentially an organized light that is only perceptible by organized beings.

MOTHER EARTH

It is the era of wandering; wandering of the primordial Australopithecus from 7 to 2 million years ago. For millennia, the Australopithecus was primarily vegetarian and lived a gathering wander, moving from place to place in search of the necessary food. This activity was essentially individualistic, each being responsible for its survival. We can speak here of a relative peaceful coexistence between hominid groups in a totally cruel world. The aggression was mostly defensive in nature. (Chatwin) It is about imagining our arboreal ancestor living in an environment of carnivorous predators, to understand that he is regularly attacked and that all his vegetarian aggressiveness is pointed towards defense for his survival. We also think of the defensive aggressiveness of the mother protecting her offspring.

It is the era of matriarchy centered around the female, because not only does she give life but above all, she protects her, she is the guarantee of the evolution of the species. This matriarchal era will last nearly 5 million years, several times longer than that of the patriarchate which dates from around 2 million years to the present day. The matriarchal diet is mainly based on vegetarianism (picking) while that of the patriarchy is mainly focused on meat (hunting). The female will always be associated with the plant world, with nourishing earth, with agriculture, with the fertility of life.

The periods of overpopulation in groups of vegetarian Australopithecines triggered regularization mechanisms, the main one of which was the social exclusion of male fasts, by the alpha male, classified as supernumerary and forced to live on the limits of the territory claimed by the group. These "superfluous" do not have access to the food resources of the group, nor access to females for mating. Non-breeders, the superfluous, often solitary, deprived of the protection of the group, cruelly undergo threats from the outside world and are more exposed to falling prey to ferocious predatory predators. Also excluded from the nourishing territories where resources abound, they often face famine so that they must regularly travel long distances to meet their needs.

"The path is made by walking"

Since they can no longer count on the group to help and support them, they are condemned to reform with the excluded others a new community capable of meeting their needs. Because they are young, these superfluous are more apt to experiment with new behaviors and often have the leisure to observe the behavior of predators in order to better protect themselves against them.

Overall, they discover not only new behaviors but also new foods. In times of famine, they do not hesitate to go and taste the carcasses of animals abandoned by predators. At first accidental, these behaviors gradually become habitual: looting birds' nests to steal the eggs or devour the young, eat the placenta and fetuses that are naturally aborted, consume emerging animal fasts. Thus a replacement diet is set up which will quickly become complementary to the initial vegetarianism.

When major climatic changes such as glaciations appear on the horizon, disturbances occur with them which upset the entire ecosystem of flora and fauna: strict predators die from the scarcity of animals,strict vegetarians are dying of the scarcity of plants and fruits, only the superfluous, both carnivorous and vegetarians, have been able to adapt to the new environmental conditions. The excluded have become the dominators of a new existential paradigm, they form communities "of the future" and adopt behaviors such as the direct action of group predation, ancestor of hunting.

Thus, everything happened as if the exclusion mechanisms had "programmed" the transformative mechanisms which allowed the birth of hominins. In short, the marginalized have saved our species from natural extinction by offering it a better ecological balance which has increased our autonomy vis-à-vis the surrounding natural environment.

Of the various Australopithecus families, only the line of Australopithecus africanus and its descendants such as Homo habilis, Homo erectus, Neanderthal man and finally Homo sapiens also called Cro-Magnon include meat in their menu; thus becoming omnivorous. The integration of meat into their diet is of capital importance in the history of evolution and marks the beginnings of hunting after a long period of carnage including cannibalism. Indeed, only the line of omnivorous Australopithecus (Homo habilis) will survive; strict vegetarians will disappear, unable to compensate for the harmful effects of ice ages on the plants that nourished them; weakened, they become easy prey for carnivores. Homo habilis owes its survival also to a major anatomical change: the lengthening of the legs which allows it to eventually reach the upright position, thus freeing the hands to other occupations. Its only code of "conduct" is nature, it is the language of nature where everything is played out at the level of instincts and innate behaviors. From vegetarian to omnivore therefore also carnivorous, he adapts his behavior to his new diet and adopts hunting as another means of subsistence.

For the first time, perhaps, an activity (hunting) requires the cooperation of the members of the group with a view to a specific objective and association in the sharing of the slaughtered game. Thus will be born the notion of group, tribe or if you prefer the sociability necessary for the attack but also for the defense against other predators.

The arrival of meat in the diet introduces into behavior the offensive aggressiveness necessary for attacking game (predation) which complements the defensive aggressiveness of vegetarian arboreal plants. From now on, the development of aggressiveness in Australopithecus will follow the rules of hunting. For the first time, we are witnessing a sharing of tasks: the defensive maternal aggressiveness will serve mainly to protect the camp and the newborns and to pick berries, nuts, tubers and fruits while the predatory male will hunt; although the female can sometimes participate in the predation effort by hunting small game around the base camp. (here no sexism, the aggressiveness of the female being identical to that of the male in intensity at least)

But before getting there, a whole evolutionary process, spread over hundreds of thousands of years, must have been realized such as the passage to the standing station which facilitates the race, the creation of tools by the development of a brain able also to memorize the abstract concepts necessary for the planning (of the hunt) and their transmission by a rudimentary mode of communication, in short, the emergence of the mind by which it can act in a predictable way on the environment and sense the forces that govern nature, the cosmos and the emergence of fundamental archetypes as hieroglyphics of the unconscious.

With hunting, the Australopithecus brain doubles in size, not overnight, but spread over a few hundred thousand or even millions of years. (At that time, we took the necessary time to do things right). Patiently, the Australopithecus, disadvantaged by nature, will create, from bones (knives, club) and branches (sagaie), the weapons necessary for its survival. Without guns, it's a safe bet we wouldn't exist. For the hordes of prehistoric times live in a world of merciless terror and cruelty where death was unthought, it suddenly happened, "kill to live" period. The Australopithecus was afraid, yes! by instinct but the fear of dying did not exist.

"With Australopithecus (Homo Habilis), between 3 million and 1 million years ago, the first tools appear, traces of technical behavior, external to anatomy. The reproduction of the same gestures organized in logical and efficient sequences proves the existence of the first concepts. The handling and the use of these tools formed a driving force in the chain of ideas. We find hunting and gathering remains showing the observation and the prediction of animal behavior. developed indicate the existence of a place of reunion, a protected place where the young could be educated and the women fed by the hunters. This implies the existence of a prolonged learning process compared to other primates therefore an educational mode allowing the transmission of an acquired social behavior. one (the revelation) of its equivalent in the sacred (unconscious) domain inaccessible by reason ".

So much so that the tool is inseparable from the sacred. Not only does it ensure the survival and development of the species, but it produces a whole universe of mythico-religious relations, if only the mastery of distance by the throwing of the spear, which nourishes the creative imagination. The anthropologist economist Marshall Sahlins (1972) estimates that "the hunter-gatherer could amass what was required for a living (food, shelter, medicinal plants, tools) after fifteen hours of effort per week; so the rest of his time he freely used it for play and rest. Such was the original abundance society. " Our ancestor therefore had time to play but also to concentrate and reflect on his condition and above all to experiment.

Knowledge of hunting techniques leads Homo erectus to conquer new territories by following the migration of animals. By leaving his alma mater; Africa (terrestrial paradise), Homo erectus undertakes a long period of wandering (wandering of Gilgamesh, Adam and Eve) which will lead him to a conquest, an immense expansion of his territory towards Asia as far as China and Russia, to Europe as far as Spain. Thanks to this prodigious expansion, the human species acquires a fabulous baggage of knowledge and adaptation to different environments, both climatic and food. This new knowledge disseminated in space corresponds to the foundations of current populations; the human species is divided into racial branches (anatomical modifications) and develops cultural specificities inherent in frequenting new territories. (foods, habitats, etc.).

Let us remember, the more life evolves, the more the living becomes diversified. It will be the same for the territory. We will speak of territoriality, of cultural territory linked to a specific group: Caucasian linked to the particular conditions of south-eastern Russia, Negroid south of the Sahara in Africa and Mongoloid in the steppes of Central Asia; Native Americans are related to the Mongoloid group at the beginning and will acquire more and more specific characters.

The passage of archaic man from prehistoric times to ancient man therefore spanned several centuries. From this long evolution was born a whole panoply of concepts going from the economic exchange to the social organization while passing by a primitive technique centered mainly on the use of water, fire, earth. Quietly arose the experience of civilization based on a conscious choice of the individual towards collective life governed by laws and rules. A whole series of spiritual concepts followed the same evolutionary path ranging from dream, to magic, to totemic animism to the gods. The world was swarming with Gods, themselves also specialized: God of hunting, agriculture, war, forests, rain etc. Thus the astrological aspect, a more intuitive approach, close to myth and tradition also experienced considerable growth. While Vedic and Buddhist thinkers emphasized the body / soul-cosmos / spirit relationship, Arab philosophers them set out to establish the correspondences between the body, the heavens and nature.

The stars and the stars are part of the familiar universe of man. Unable to physically reach the cosmos, man projects himself there symbolically to extend the territory of his kingdom. The sky is populated with human and animal appearances. The star constellations become signs of the zodiac with its bestiary of bull, ram, fish, lion, scorpion and weave a network of correspondences with the human body divided into twelve parts linked to astrological signs. Every limb and organ finds its counterpart in the heavens. Thus the ram rules the head and the face of man, bull, the neck, the throat; Gemini, shoulders, arms, hands; Cancer, chest, ribs and lungs; Leo, stomach, heart, and back; Virgo, belly and bowels; Libra, lower abdomen under the hips, groin, navel; Scorpio, sexual organs, bladder, uterus; Sagittarius, thighs; Capricorn, knees; Aquarius, the legs to the heels and finally, Pisces, the feet.

Respect for the body and its organs was deeply rooted in traditional societies. A whole ritual of life was taking place around him. The movement of the stars, the position of the planets mainly the influence of the moon, punctuate medicinal interventions and ancient therapies. The cosmos even penetrates the most intimate part of the female body, the influence of the planets on gestation was as follows: "During the first month, Saturn dominates the conception of the embryo. Jupiter takes its place in the second, makes the flesh and limbs. In the third month, Mars with its heat, separates the limbs from each other and arranges the head, arms and legs.

The dominant Sun in the fourth month creates the heart and gives movement to the soul sensitive. In the fifth month, Venus forms the ears, nose, penis and testes in males, breasts and vulva in females, strengthens the bones and vertebrae and forms the fingers of hands and feet. During the sixth month, under the influence of Mercury forms the organs of voice and sight, hair and nails begin to grow. In seven, the moon fills all the voids of the flesh with water, giving it the nourishment it needs. month and ninth month, return to the order of Saturn, which dit and Jupiter who alternately warms the fetus to better acclimatize it to its new life.

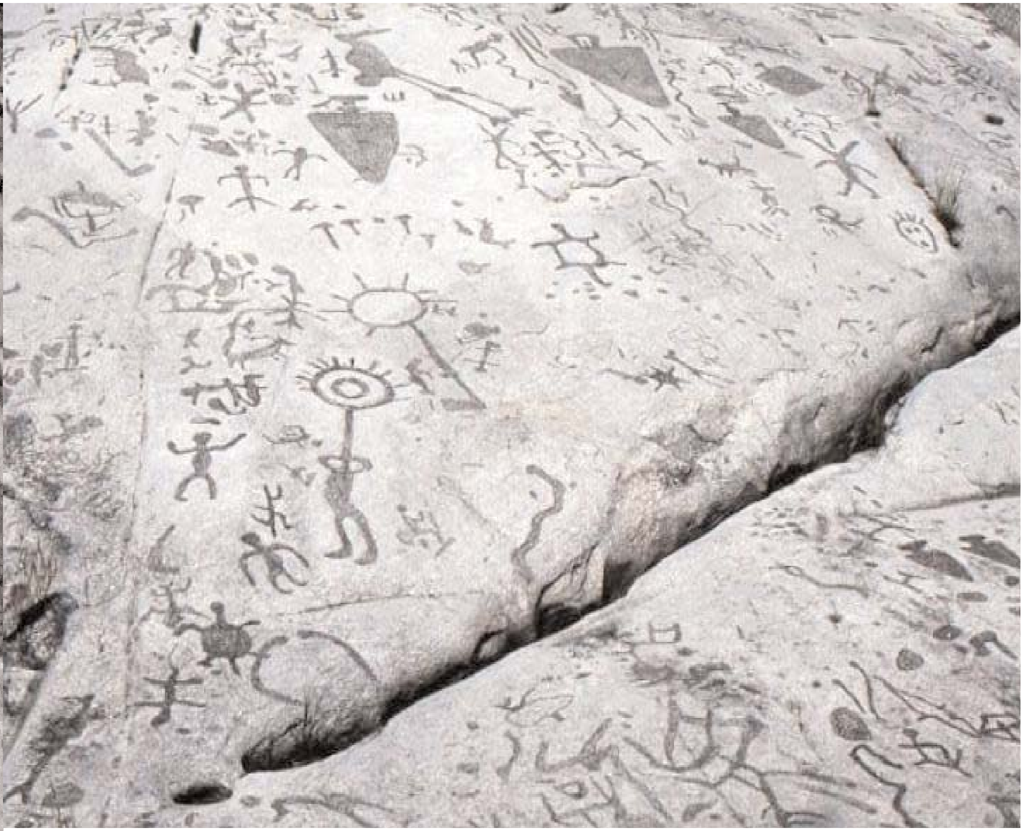
It is through the vital energy radiating from his body that man becomes aware of Universal Life. To deny it is also to deny the spirit and the soul that inhabits terrestrial nature. We therefore live in a fabric of theophanies, signs and information that the mind analyzes, man in this sense is a pontifex, a builder of a bridge between inner and outer reality.

"The body is like the earth, its bones are mountains, its marrow mines, the abdomen is like the sea, the intestines like rivers, the veins are rivers, the flesh is like dust and mud. The hair on the body is like plants, the places where it grows are like fertile soil, and the places where nothing grows like saline soil. From its face to its feet, the body is a populated city, its back is the deserted region, the front is east, its back west, its right south and its left north. His breath is like the wind, his words are thunder, his cries are lightning. His laughter is like the wind. noon's light, her weeping like rain, her sorrow is like the darkness of night, and her sleep like death, just as her vigilance is like life. The days of her childhood are spring, (follows) summer maturity is autumn, and old age is like winter. s stars and their rotations. His birth and presence are like nascent constellations, and his death and absence are like their bedtime. "

Several Eastern civilizations, of Oceania and America immediately adopted a completely different vision where "the task of man is to integrate himself into the world of phenomena; his duty is to find the place and the place which are his in this totality which is the earth.

PETROGLYPHS - SIGNS OF LIFE AND MYSTERIES

The petroglyphs and pictographs are the archives of a people without a written language and are rare links to the ancient indigenous cultures of the province. They record coming of age ceremonies, performed by young people, and were funeral markers or guardians for the dead. They commemorate the potlatches and semi-secret events that took place during the winter ceremonies. Others marked the limits of hunting and fishing territories. Some sites may have been part of secret shamanic rituals. A few were records of disasters: floods, landslides, storms and wars. Many appear to have been personal records of individual experiences. Although in a few cases there are ethnographic explanations as to why a particular sculpture or painting was made. The age of very few petroglyphs and pictograms is known.



Origin of homo

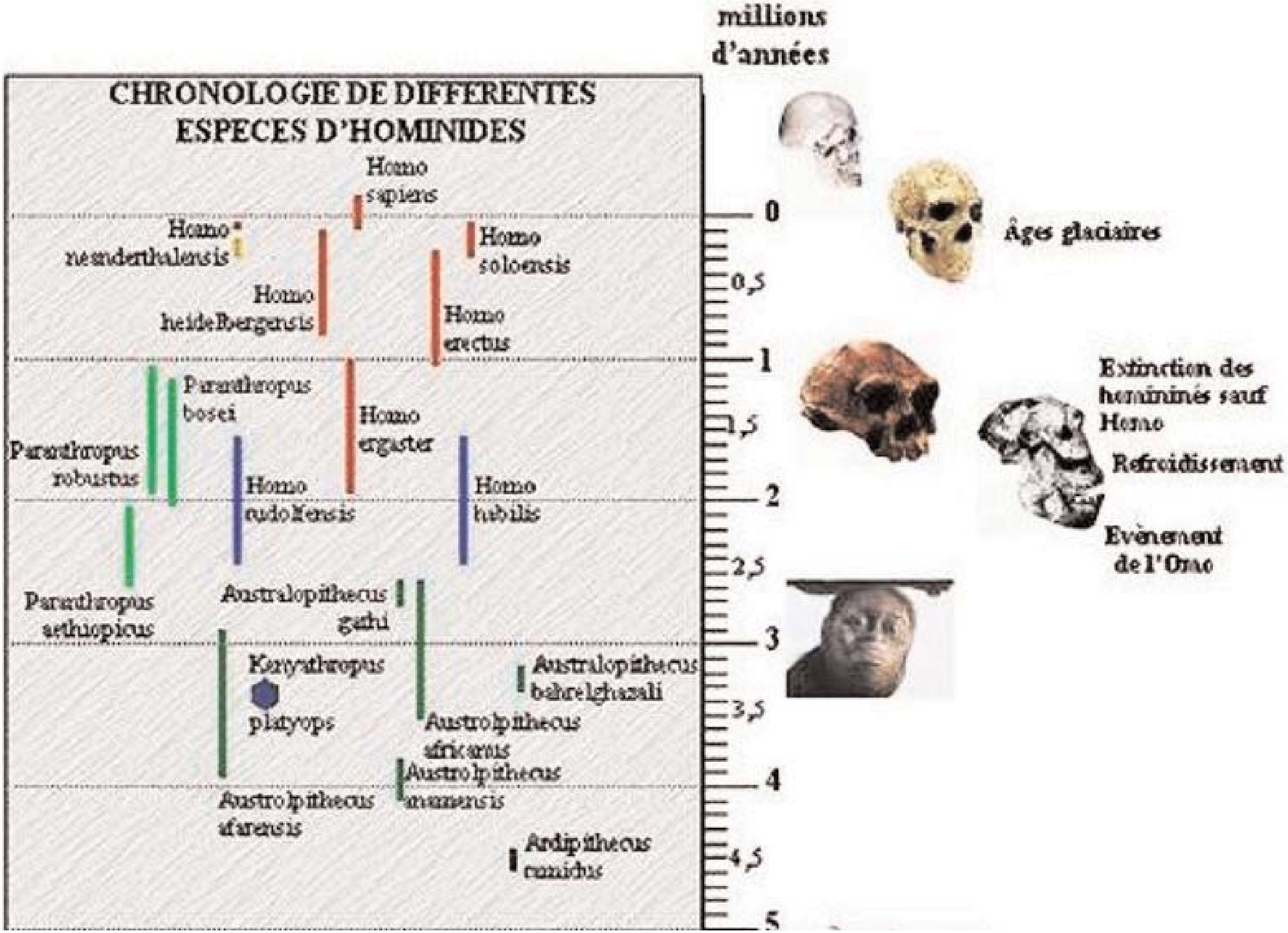
Homo habilis, our oldest identified ancestor (3 million years old), is located in the African cradle. Homo erectus which first migrated from Africa to Asia two million years ago ... then a second time to Europe a million years later. From -500,000 all the fossils found in Africa confirm that Homo erectus evolves towards modern man. 100,000 years ago, in Asia and the Middle East, we find this type of evolution towards Homo sapiens. In Europe, around -40,000 appears Cro-Magnon. All these fossils are unanimous ... and the dating methods confirm it.

The main stages of hominization

For Teilhard de Chardin "hominization is the set of evolutionary processes by which humans have acquired the characters that distinguish them from other primates".

* The evolution of the genus Homo is marked by:

* bipedalism is the first stage of hominization acquired in Australopithecines.
 Other stages are gradually being put in place:



* the increase in brain volume goes from 300-400 cm3 in Australopithecines to about 1,400 cm3 in modern humans, but ... Homo sapiens neanderthalensis had a higher head volume of the order of 1,600 cm3. The comparison of the skulls and endocranial casts shows an increase in cranial volume and an increasingly important vascularization.

· language requires the presence of a vocal apparatus and the development of certain areas of the brain (Broca's areas). Thanks to endocranial casts and basic studies of the skulls, specialists believe that Homo erectus could speak.

Population genetics deals with fluctuations over time in the frequencies of different alleles of the same gene in one or more populations, under the influence of natural selection, genetic drift, mutations and migrations, and seeks to explain adaptation and speciation. This app gave birth to neodarwinism. It makes it possible to understand the mechanisms of conservation and / or disappearance of populations and / or species. The population is a set of individuals which presents a reproduction unit: all the individuals have the same probability of interbreeding, but reproduce less or not with neighboring populations. A population is determined by spatial and temporal criteria and by a collective genome, the sum of individual genotypes: it is not a species. This population is a model, it only very rarely corresponds to reality.

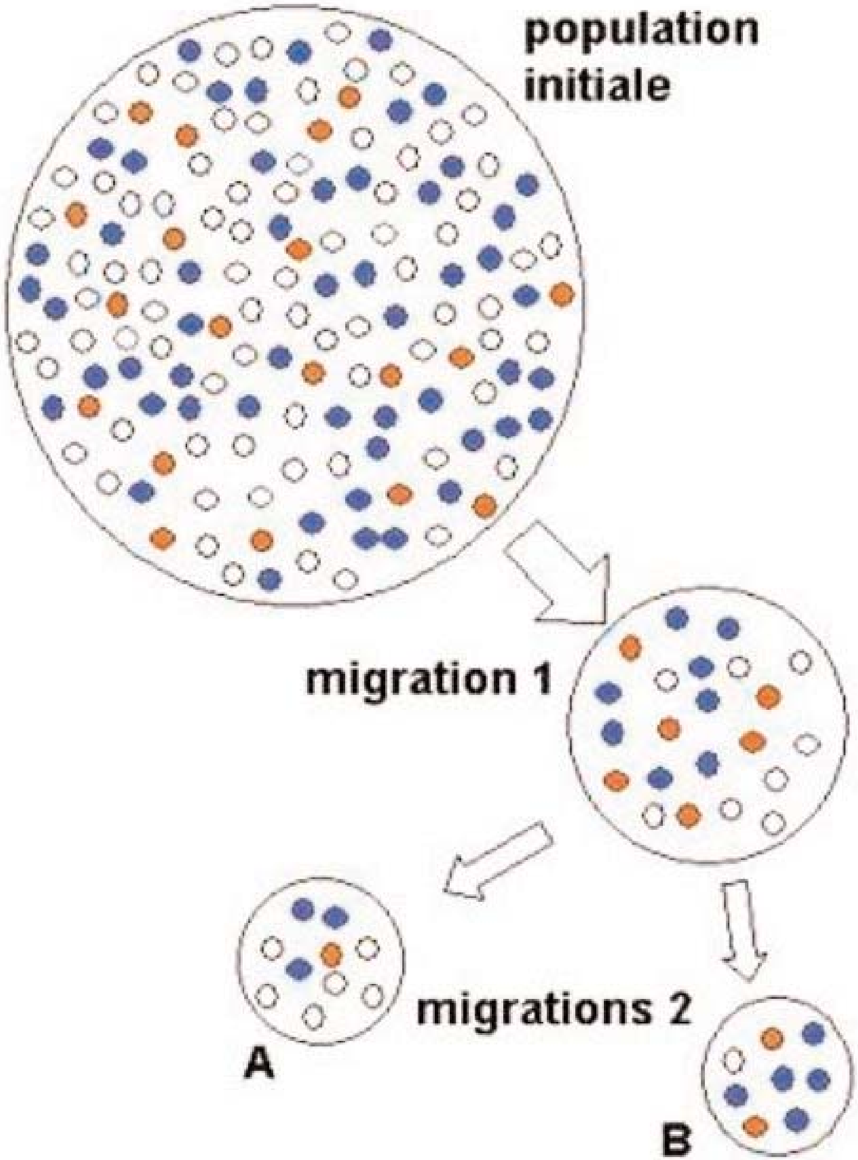
Predicting the genetic variability of a population is very difficult to achieve due to mutations, simultaneous transmission of several genes, etc. To avoid these problems, an ideal and practical model has been developed for the numerous mathematical studies of population genetics: the frequencies of the alleles and the genotypes follow the Hardy-Weinberg law, a reference model in population genetics. This law states that allele frequencies and genotypic frequencies remain stable from generation to generation. This is only a model!

Polymorphism: in a population, a gene is said to be polymorphic if it has at least two alleles with a frequency greater than or equal to 1%. Otherwise, if the gene still exists in multiple copies, it is polyallelic. A polymorphic gene is necessarily polyallelic. Genetic variability is the result of mutations that cause new alleles to appear. Mutations, the founder effect, genetic drift and variable selection pressures lead to increasingly important genetic differences.

Mutations, the founder effect, genetic drift and variable selection pressures lead to increasingly important genetic differences. While migrations are the occasion for the transmission of alleles from one population to another, genetic drift and selection cause variations in the frequency of alleles internally within populations. This model is intuitively justified: it is clear that all the individuals of a generation will not produce the same number of descendants; some will not have children (pass no genes), others will have large families and pass several copies of their genes to the next generation. If the population is large, the loss of a copy of a certain allele present in an individual without descendants will be compensated by the fact that another individual with the same allele will have several descendants. In this way, allele frequencies fluctuate little in large populations.

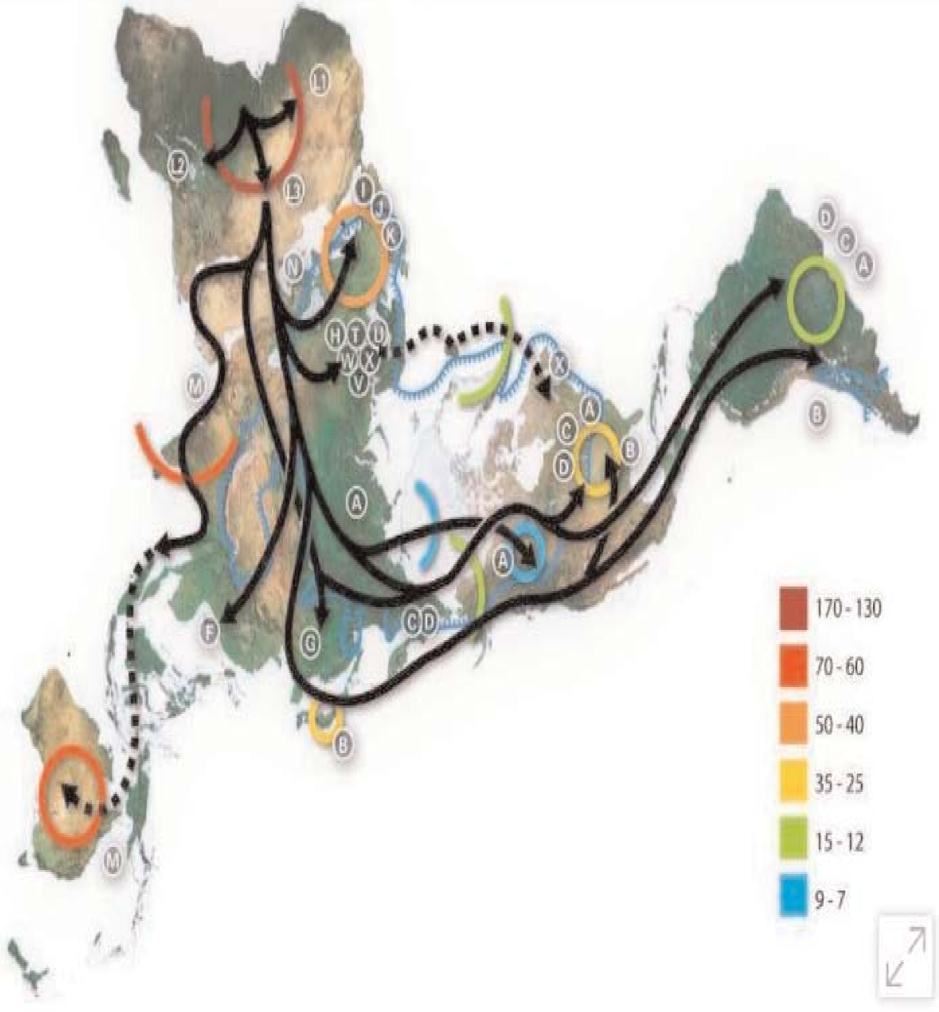
Consequences of genetic drift
* The inbreeding of the population will increase.
* The number of homozygous individuals will also increase.
* Allele frequencies fluctuate from generation to generation
* The amplitude of these fluctuations will be greater as the population is small.
* Populations from a mother population will differentiate genetically

Consider that two populations separate at a given time. They will initially have the same allele frequencies, but they will experience independent genetic drift processes. Each of the populations will have allele frequencies that change randomly over time. They will therefore diverge genetically. The genetic variability of the species will increase, especially since it will be composed of small populations isolated from each other. The allelic frequency of a migrating group is often not representative of the population from which it comes. This is the founding effect.



There are three genes present in the starting population of our example with a lot of whites, a little less blues and a few reds. After a first migration, the white and blue genes are represented in equal parts, but the red genes are over-represented, the migrants having this gene "a lot", those who stayed less.

We see during the next two migrations that the distribution changes again ... we can see that the humans who left have taken certain genes, left others ... and certain genes, rare, may have disappeared. Thus the B blood group, very present in Asia, land of origin of the small populations of hunter-gatherers who crossed Beringia to colonize America, is almost non-existent in the current Amerindian populations: lost on the way, no doubt! Despite all these hazards any man can have offspring with any woman on the planet and their offspring will be fertile, we see it every day, so we are still the same and unique species Homo sapiens sapiens, this is the very definition of the species!



Migrations

Nomadic peoples whose economy is based on hunting and gathering have often been taken as an example of a way of life characteristic of the Paleolithic period, a phase representing at least 95% of human history. The examination of such a society and, in particular, the question of international migrations in prehistoric times reveals similarities and differences that could make us reflect and think better about modern migrations ... We have traced the kinship of DNAs mitochondrial (therefore of maternal origin) on samples from all over the planet and we obtain a map of colonization of the Earth during human history which is approximately the same as that obtained with fossils and logical deductions that we were able to do with the weather and the different dates. The genetic gap being all the greater the older the separation, this also corresponds to a kind of dating.

Migration and "mixing" of Men

If we turn now to history ... Migration continued in successive waves, more or less important depending on the period but in a sufficient way to "mix" the peoples throughout history. Migration was from east to west, and north to south, with a few exceptions. Over a hundred years ago, in 1910 and 1911, archaeologists found thirteen teeth in a cave in the Cotte de St-Brélade on the island of Jersey.

According to the first analyzes, they belong to a single Neanderthal man. A group of scientists from the London Museum of Natural History, the University of Kent and the Max-Planck Institute for Evolutionary Anthropology have decided to update their dated description. The new elements thus obtained redefine the supposed history of these teeth. They would belong to two individuals, perhaps born of love between Neanderthals and Homo sapiens.

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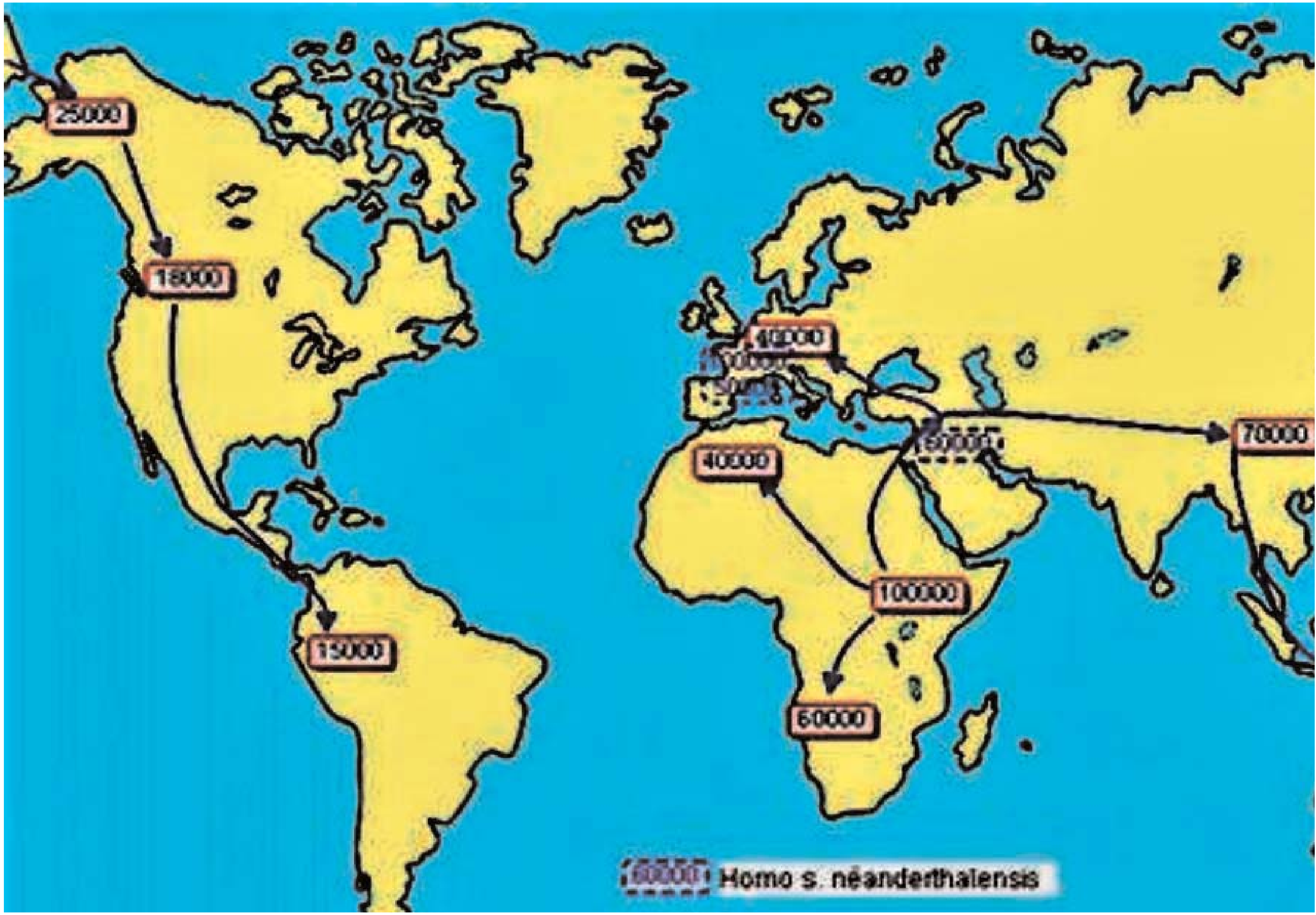
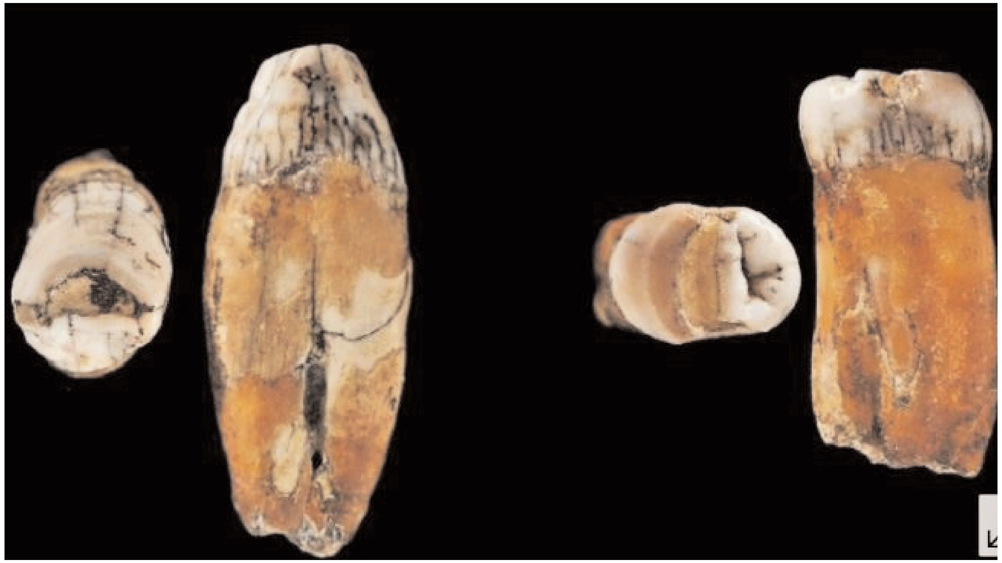


A recent dating of the sediments taken at the same time as the teeth makes it possible to estimate their age: 48,000 years before our era. It is one of the most recent Neanderthal remains that we know of, since it seems to have disappeared around 40,000 BC. Scientists believe that during this period, Neanderthals may have encountered their cousin Homo sapiens in this region of Europe.

Teeth of Neanderthals and Homo sapiens.

The morphological analysis of the 13 teeth provides its share of clues supporting the thesis of an encounter and reproduction between the two human species. All teeth bear characteristics unique to Neanderthals, namely the dimensions of the crown and the root, as well as the shape of the latter, which are comparable to other known Neanderthal teeth, but they also have their own structures. to the teeth of modern men. Scientists then hypothesize that these teeth belong to individuals whose parents are mongrels between Neanderthals and Homo sapiens.

Some researchers have argued for some time that the innovations that emerged around this time could have their source in Homo sapiens. At the Bacho Kiro site, we can also observe the presence of cave bear teeth transformed into pendants, some of which are surprisingly similar to the ornaments made later by the Neanderthals in Western Europe.



These would therefore have adopted technologies and a culture initially brought by Homo sapiens, which is not so surprising when we remember that we have evidence of hybridization between these hominids. What to add a new room to the debates on this question because it now appears clear that the first Homo sapiens arrived in Europe 5000 years earlier than it had generally been admitted until now. Especially since we know that about 8,000 years later, it is Homo sapiens who takes the ascendancy on the continent with the final extinction of the Neanderthals

Personal ornaments and bone tools from Bacho Kiro cave (Bulgaria) in Hublin et al., 2020.

Personal ornaments and bone tools from Grotte du Renne, Arcy-sur-Cure, France. Modified from Fig.1 Caron F, d'Errico F, Del Moral P, Santos F, Zilhão J (2011) The Reality of Neandertal Symbolic Behavior at the Grotte du Renne, Arcy-sur-Cure, France. PLOS ONE 6(6): e21545. https://doi.org/10.1371/journal.pone.0021545

Assimilation of archaic men by modern men

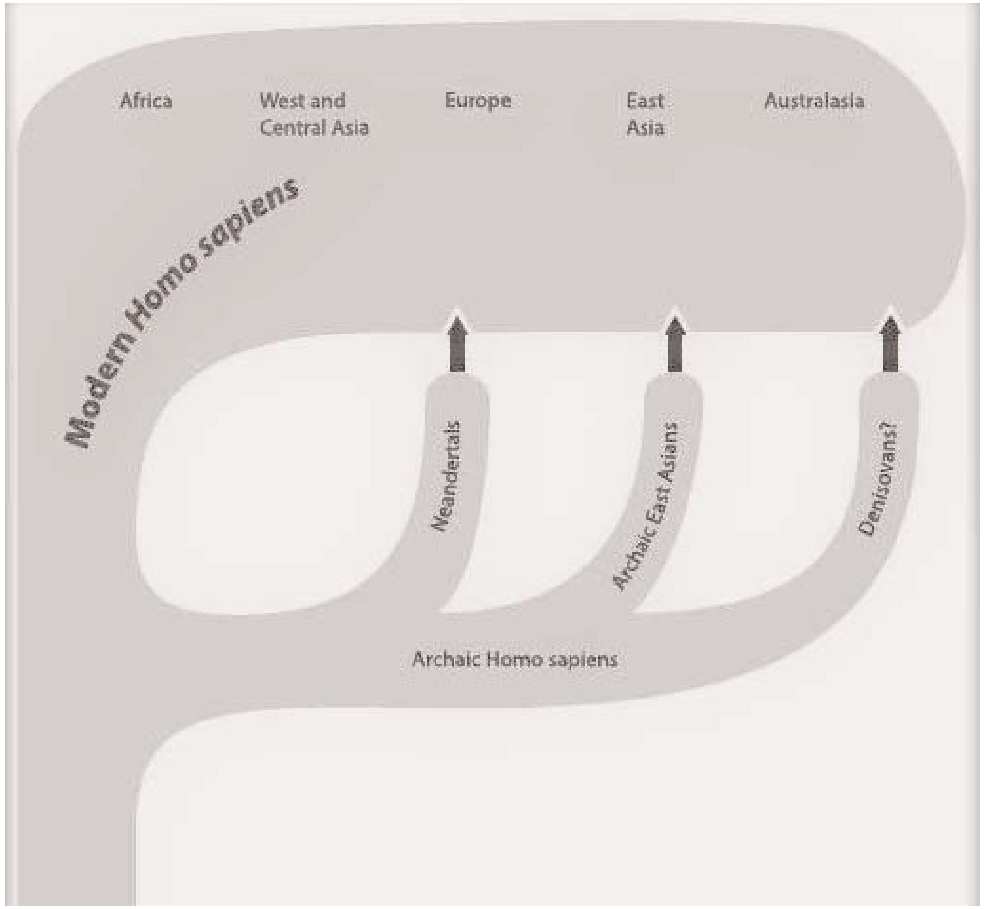
Two main models have dominated the discussion of the origin of man. The first is the most widely accepted model. This one is of recent African origin. The second is that of multiregional evolution. The model of recent African origin suggests that modern humans first appeared in Africa and then spread to Eurasia, replacing the archaic men present. According to this model, very little genetic exchange has taken place between modern humans and archaic humans. The multiregional model suggests that modern human characteristics arose in different regions of the world at different times. Modern traits then spread through genetic exchange between different populations.

An alternative to these models is that of assimilation. This suggests that modern man appeared in Africa before spreading to Eurasia as a model of recent African origin. However, unlike the latter, it assumes that many gene flows have taken place between different populations.

The assimilation model is based on the observation of a certain continuity in the morphology of the skeletons between archaic men and modern men with individuals located chronologically between the two populations and presenting an intermediate morphology.

The first genetic studies (based on mitochondrial DNA) indicated a relatively recent origin of modern man in Africa. These results were then confirmed by nuclear DNA studies. Then the first studies of ancient mitochondrial DNA on samples of Neanderthals showed that the Neanderthal maternal line was outside the variations of the maternal lines of modern man. Subsequent studies of ancient Neanderthal nuclear DNA then showed that modern humans and Neanderthals nonetheless shared a number of derived SNP markers that outnumbered those that would have been shared between two human populations that would. diverged for several hundred thousand years. In addition, these two populations share the same haplotype of the FOXP2 gene responsible for language-related abilities. However in this specific case, this gene must have been inherited by both populations from a common ancestor, and not inherited by modern humans from Neanderthals. In 2010, the first complete genome of a Neanderthal man showed that Neanderthals share more SNPs with Eurasians than with Africans.

The most parsimonious explanation for these data is that Eurasians inherited between 1.6 and 2.1% of their genome from Neanderthals following crosses between the two populations. The same year saw the identification of a new species of archaic men in Siberia: the men of Denisova.



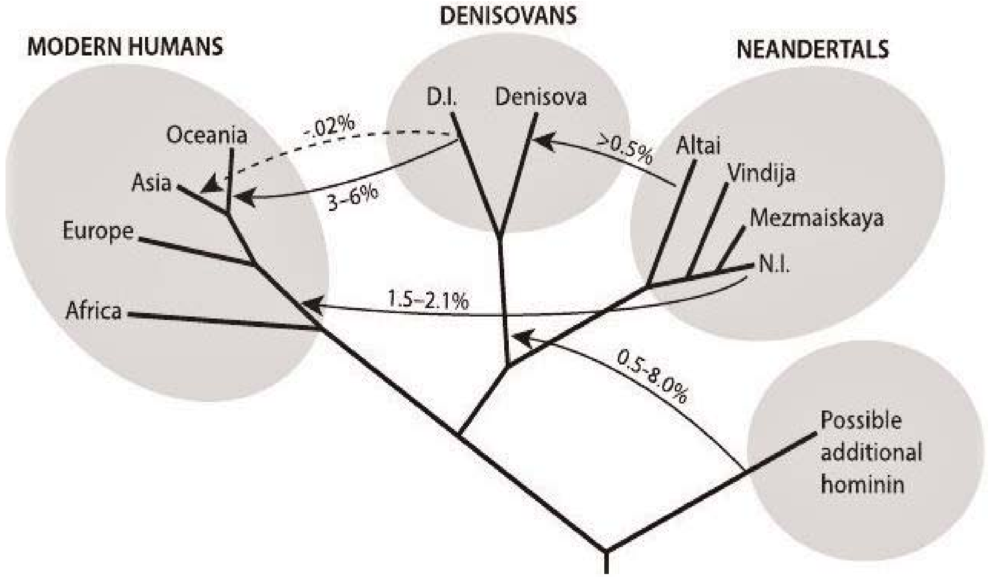
Interestingly, the Melanesians inherited between 4% and 6% of the DNA of this population. Finally, very recently, the study of a sample of a Neanderthal man from Siberia showed that he had inherited a small part of the DNA of modern man. Surprisingly, it appears that Europeans and Asians inherited an equivalent part of Neanderthal DNA, while Neanderthals are predominantly present in Europe and not in Asia. It has thus been suggested that the inheritance of Neanderthal DNA in modern humans must have occurred only once when modern humans left Africa, possibly in the Middle East. However, recent studies have shown that several episodes of interbreeding dated between 86,000 and 37,000 years are necessary to explain the data. As the Denisovans share more SNPs with the Melanesians, the date of this interbreeding must have arrived after the last interbreeding between modern humans and Neanderthals. The share of Neanderthal DNA in modern humans has declined over time.

It was indeed higher in the first modern humans to arrive in Eurasia. Thus the individual of Pestera cu Oase in Romania had between 6 and 9% of Neanderthal DNA. This Neanderthal DNA was then lost by modern humans through natural selection. In fact, strong positive or negative selection has played an important role in modern humans. Thus, a positive selection for the Neanderthal intake has been demonstrated, in particular in the immune system, or in the characteristics of the hair or the skin. This selection has helped modern man to adapt to his environment outside Africa. The Denisovans also contributed to the adaptation of certain populations, in particular the Tibetans who inherited their adaptation to high altitudes from the Denisovans. Negative selection is visible in particular in the X chromosome which contains large regions without any Neanderthal markers.

This can be explained by the fact that the X chromosome harbors genes responsible for reducing male fertility. Thus, men who inherited Neanderthal DNA had a greater tendency to become infertile. While technological differences likely played a role in the interactions between modern humans and Neanderthals, it is becoming increasingly evident that Neanderthals were not inferior to modern humans in terms of intelligence or ability. adaptive.

However, there is strong archaeological, genetic, and biological evidence that suggests Neanderthals (and possibly other archaic populations) were much outnumbered than modern humans. Thus, some studies suggest that modern humans outnumbered Neanderthals around ten times the number in southwestern France. This difference in population size also helps explain the relatively low proportion (<10%) of Neanderthal DNA in modern humans.

These results support the theory of assimilation. The populations of archaic men were indeed few in number. The figure below summarizes the different gene flows between modern humans, Neanderthals, Denisovans, and another possible population:



This diagram is surely very simplified compared to what really happened, since the gene flow must have occurred several times between the different populations. The proportion of archaic men was higher in early modern humans as can be seen in the individual of Pestera cu Oase or in Qiaomei Fu's recent study on the genetic history of Europe during the Ice Age. .

There are two possible candidates for identifying the Denisovans. The first consists of a series of Chinese fossils which are currently considered to be a successor population of Homo Erectus. They are not Neanderthals although they have similarities in some archaic traits. The second is the Ngandong fossil on the island of Java considered to be a late Homo Erectus.

The authors of this article firmly believe that all the current genetic and paleo-anthropological data reinforce the model of assimilation of archaic populations by modern man. In Siberia, researchers installed a grid in the Denisova cave to systematically sample layers of soil for DNA.

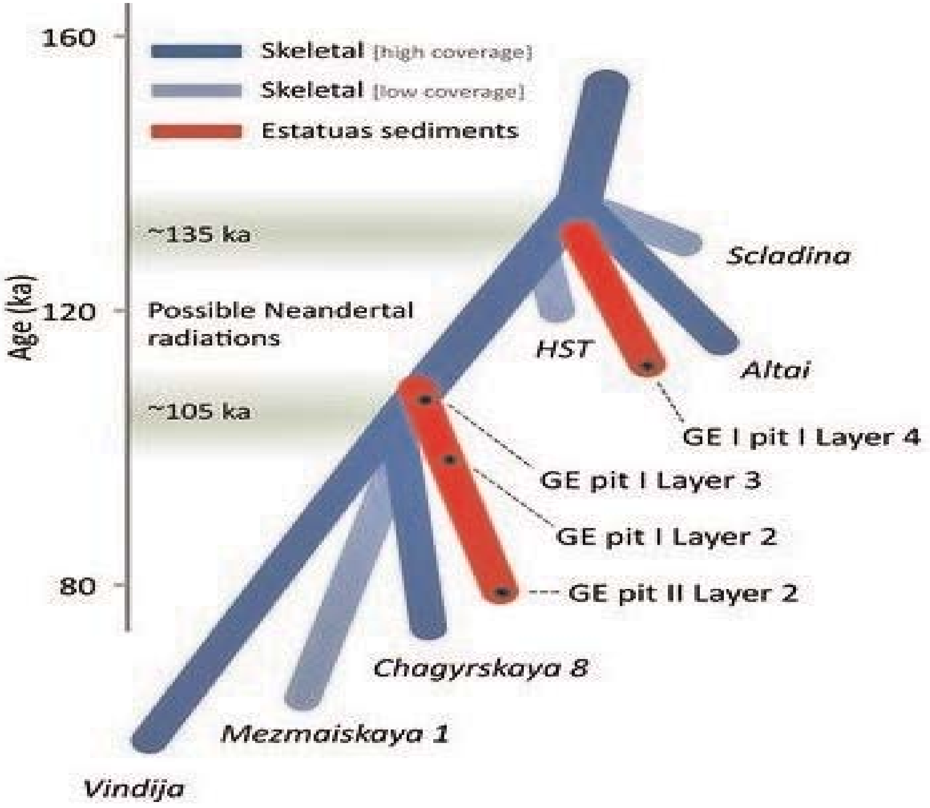
Extraction of the Neanderthal genome from Eurasian caves sediments

Analysis of ancient DNA from archaic humans has dramatically improved our understanding of their evolution and interactions with modern humans. Today, the complete or partial genome of 23 archaic men has been determined: 18 Neanderthals from Eurasia, four Denisovans and a child of a Denisovian father and a Siberian Neanderthal mother. While many Paleolithic sites have been excavated, few have yielded the remains of archaic human skeletons. In 2017, researchers extracted mitochondrial DNA from archaic humans from sediment in a cave.

The paleo-geneticians have just published an article entitled: Unearthing Neanderthal population history using nuclear and mitochondrial DNA from cave sediments. They analyzed the sediments of three Eurasian caves: the Denisova cave and the Chagyrskaya cave both located in the Altai mountains and the Galería de las Estatuas located in northern Spain in the Atapuerca complex. The authors were able to determine a mitochondrial sequence of a layer of sediment from the Chagyrskaya cave and three layers of sediment from the Galería de las Estatuas. These data could be compared to the previously published mitochondrial sequence from the sedimentary layer of Denisova Cave, as well as mitochondrial sequences of archaic humans from skeletons (in black below):

The sequence of layer 4 of Estatuas is grouped with the Neanderthal sequence of Hohlenstein-Stadel (HST) in Germany whose skeleton is dated to approximately 120,000 years. These two sequences are found at the base of all Neanderthals whose mitochondrial sequence is known. This layer 4 of the Estatuas is dated 112,000 years old, almost contemporary with Neanderthal man from Hohlenstein-Stadel.

The authors then determined where the different sediment samples from the three archaeological sites are placed in the phylogeny established from the genomes of the skeletons. They thus showed that the Neanderthals samples from the Denisova cave belonged to the lineage represented by the Neanderthals of the Altai. The Denisovan sample from the same site belongs to the previously published Denisovan line. In the Chagyrskaya cave, the samples are in the line represented by the individual Chagyrskaya 8. In the Galería de las Estatuas, the samples from layer 2 of pit 2 and layers 2 and 3 of pit 1 diverge between 115 and 100,000 years of the Neanderthal tree. at the position of the ancestors of the Neanderthals of Vindija, Chagyrskaya 8 and Mezmaiskaya 1. Conversely, the samples from layer 4 of pit 1 diverge between 135 and 122,000 years from the Neanderthal tree at the position of the ancestors of the Neanderthals of Hohlenstein- Stadel, Scladina and Altai, in agreement with the mitochondrial diversity identified above:



The ancient Siberian cave was home to Neanderthals, Denisovans and modern humans, possibly at the same time

Ten years ago, anthropologists shocked the world when they discovered a fossil little finger bone from a then-unknown group of extinct humans in the Denisova cave in Siberia. The group was named "Denisovans" in his honor. Now, extensive DNA analysis in the cave's soils reveals that it was also home to modern humans, who arrived early enough to have once lived there alongside Denisovans and Neanderthals.

The new study "gives [researchers] unprecedented glimpse into the past," says Mikkel Winther Pedersen, a molecular paleoecologist at the University of Copenhagen who was not involved in the work. "It literally shows what they could only speculate."

Humans, including Neanderthals and Denisovans, are known to have occupied Denisova Cave for at least 300,000 years. Among the eight human fossils found are the little finger, three Neanderthal bones, and even one from a child with a Neanderthal parent and a Denisovan parent. The cave also contains sophisticated stone tools and jewelry from higher and later levels. But no modern human fossil has been found there. These artifacts, extensive DNA studies from these bones, and even an early study of soil DNA cemented the cave's importance in reconstructing human evolution.

But eight fossils aren't many, so Elena Zavala, a graduate student at the Max Planck Institute for Evolutionary Anthropology, and her colleagues teamed up with Russian researchers to see what kind of DNA was present in the cave's soils. with three rooms.

Researchers have been studying DNA isolated from soils for over 40 years, including sequencing DNA from permafrost, but it's only in the past 4 years that anyone has found human DNA extinct in old soils.

Together with another team of experts who had already dated the layers of the cave, the researchers unearthed 728 soil samples. After 2 years of analysis, during which they isolated and sequenced the samples, the researchers found human DNA in 175 of them. This makes the study "the largest and most systematic of its kind," explains Katerina Douka, an archaeologist at the Max Planck Institute for the Science of Human History who was not involved in the work.

The data reveals a complex history of human and animal habitation, with different groups entering and exiting the cave over time, Zavala and colleagues report today in Nature. Their work confirms that the Denisovans were the cave's first human inhabitants, around 300,000 years ago. They disappeared 130,000 years ago, to be followed by another group of Denisovans, who probably made many stone tools, some 30,000 years later. Neanderthals first appeared on the scene around 170,000 years ago, with different groups using the cave at different times, some overlapping with the Denisovans.

The last to arrive were modern humans, who appeared around 45,000 years ago. The soil layer that corresponds to this period contained DNA from all three human groups, the researchers report. "The periods [of each layer] are quite large, so we can't say concretely whether they overlap or not," says Zavala. But, adds Douka, "I can't think of another site where three human species have lived through time."

Considering the sophisticated jewelry and artifacts from later layers, some researchers suspected moderns had been there. But no one knew that they had arrived 45,000 years ago and overlapped with our two archaic cousins. "This suggests a more complicated interaction between archaic and modern humans," says Ron Pinhasi, an evolutionary anthropologist at the University of Vienna who was not involved in the work. Soil samples also provided some evidence. DNA for many species of animals. About 170,000 years ago, the climate changed from warmer to colder, and Neanderthals settled there, along with different species of hyenas and bears.

It's the combination of genomic data from fossils and soil samples that really makes the new work stand out, Pinhasi explains. "This is a very promising direction [for future work]. Douka agrees and says the new study should help ancient soil DNA become" a mainstream archaeological tool. "" Let's not forget that 'In 2010, we had absolutely no evidence that Denisovans existed and that these various hominids ever met, let alone the fact that they crossed paths on multiple occasions and coexisted for millennia.

HOMO SAPIANS

Homo sapiens, also called modern man, appeared in Africa. The oldest known representatives of our species are 300,000 years old and were unearthed in Morocco, on the site of Jbel Irhoud. It was long believed that they did not leave their "cradle" until much later, some 70,000 years ago, during a major wave.

But in recent years, the discoveries have continued to question this theory, advancing more and more the date of their first migrations and extending the area of their dispersal. Apidima 1 was discovered in front of another skull, called Apidima 2. According to the study - and the presence on the occipital bone of a horizontal bony bulge - it would be a 170,000 year old Neanderthal. This new discovery reinforces the idea that multiple dispersions of human beings outside Africa have occurred. The migratory movement and colonization of Eurasia are surely much more complex than previously thought. Rather than a single exit of hominids from Africa to populate Europe and Asia, there must have been several dispersions, some of which did not result in permanent settlements.

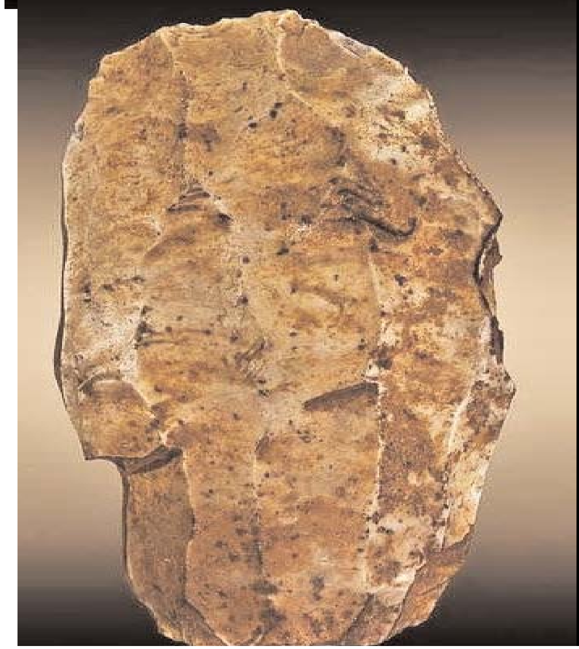
The vault of the cave of Misliya collapsed approximately 160,000 years ago, making it possible to protect until today this fossil and other materials and objects buried in the sediments. Archaeological evidence reveals that its occupants were hunters capable of killing large game such as aurochs, Persian deer and gazelles, and that they controlled the use of fire in the hearths. They also made stone tools similar to those found among the oldest modern humans in Africa.

Other older fossils of modern humans have been found in Africa, but the periods and routes of Homo sapiens migration outside the African continent are critical to understanding the evolution of our species.

A very important corridor for hominid migrations, the Near East has been occupied at different times by modern humans and Neanderthals. This latest discovery opens up the possibility of crosses between these species, and genetic mixtures between different local populations much earlier than previously thought.

In fact, the clues found at Misliya corroborate hypotheses based on genetic data that modern humans migrated from Africa more than 220,000 years ago. Several recent archaeological and fossil discoveries in Asia also postpone the date of the first appearance of modern humans in this part of the world, and therefore their exit from Africa. This discovery contributes to a better understanding of our origins. In the Upper Paleolithic, Homo sapiens sapiens, invented art (caves, figurines carved in ivory, etc.) and made tools that were increasingly economical in terms of material. first, but more sophisticated, more diverse and more efficient, with blades and coverslips, and tiny cut pieces called microburins, microliths. He also used bones, antlers, and ivory to make spears, needles, and harpoons.

The artistic manifestations of the Mesolithic are characterized by geometric or schematic figures engraved or painted (in ocher) on rock walls, on pebbles or stone slabs and on objects. There are also pendants and carved figurines. Mesolithic cultures are distinguished by the miniaturization and geometrization of stone tools. The period is marked by an increased regionalization of lithic industries. The Neolithic marked a decisive turning point. The use of pottery (which the abandonment of nomadism allowed) and that of polished stone tools are its characteristic features. It is the shape and decoration of the pottery that will serve as a reference.

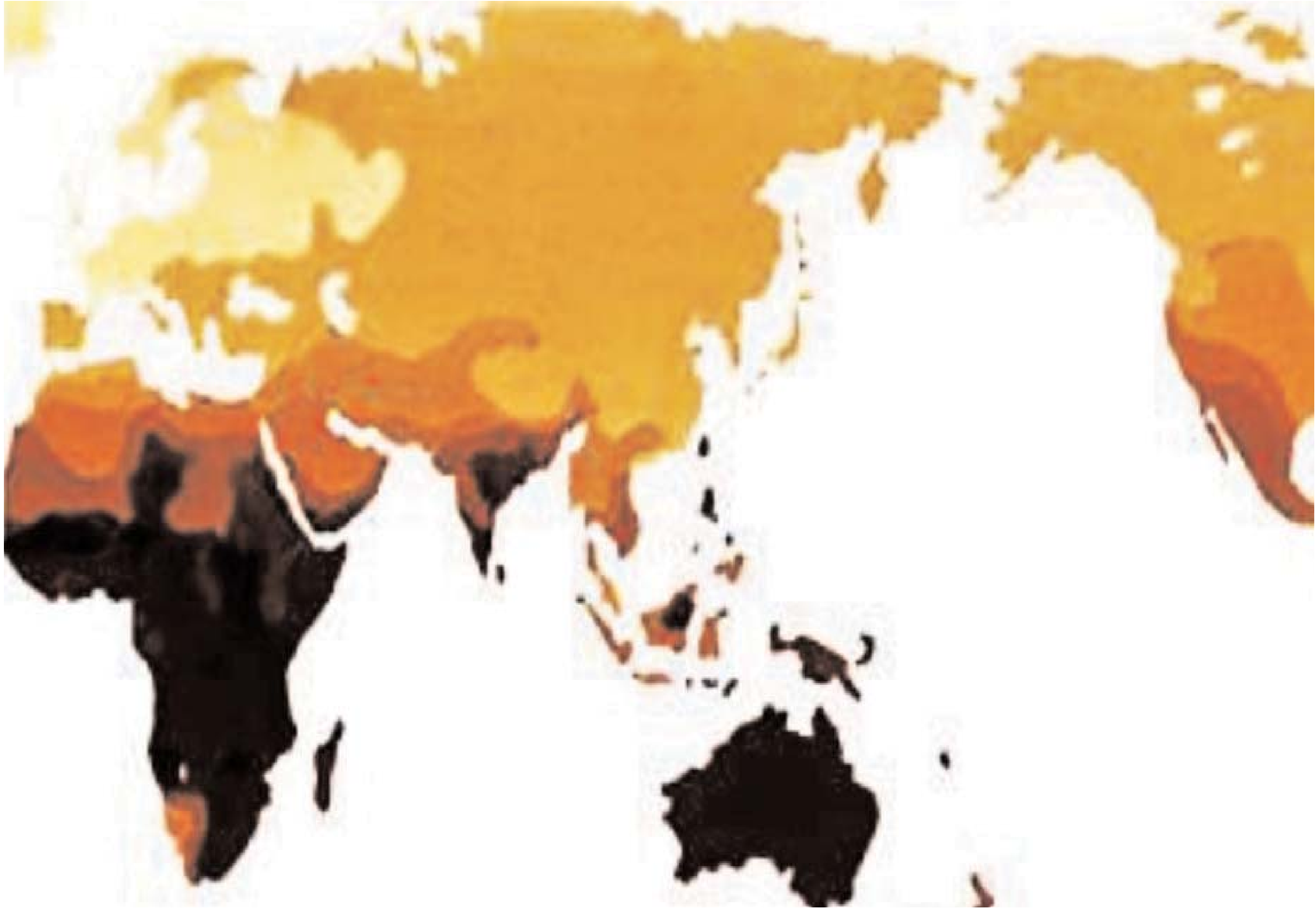


Our common ancestors

As we saw in the previous chapter, it seems well accepted, by the scientific community anyway, that we all have common ancestors in Africa. Each of us has 2 parents who each have 2 parents etc. or 2n ... ancestors. Consider the time now: around the year 1200, or 33 generations ago, each of us had 233 ancestors or more than 8 billion ... However, the world population barely reached its first billion around 1830 ... so reduce this number of ancestors therefore increase our kinship by the same amount and we can see that we must, mathematically, all be parents! Especially since, the further back in time we go, the fewer people there were, so the more common ancestors we have ... So all our genes are copies of the genes of our common ancestors, the first humans. And a thousand centuries is too short for many significant changes to have taken place. Skin color: a simple matter of regulatory genes. We all have melanocytes, which produce melanin (a natural pigment) under the genetic control of the same genes.

Melanocytes are skin cells that have extensions and contain melanosomes, cell organelles which, in turn, contain melanin which occurs in two forms in humans, both forms being present in all cases but in different proportions: eumelanin granules, round and tender, are found in greater number in the black and yellow skin; pheomelanin granules, more irregular, present in greater number in fair skin, especially in redheads. It is the quantity of melanin produced in the melanocytes which darkens our epidermis to a greater or lesser extent. At the same time, the amount and intensity of the sun's rays influence our body, which produces more or less melanin: it is tanning.

People who are continuously exposed to the sun develop a permanent tan. From a tropical region to the north, you meet increasingly clear populations, without breaking up. It is impossible to determine from what point an individual is white, black or yellow because all the shades are present.



A SIBERIAN GENOME REVEALS THE DOUBLE ASCENSION OF THE NATIVE AMERICANS.

A skeleton from the Upper Paleolithic of Siberia, that of a boy. Depending on the genes of the 3- or 4-year-old boy, physical traits indicate that he had black skin, brown eyes, and brown hair. His skeleton was discovered at the Mal'ta site along the Belaya River near Lake Baikal. The archaeological excavations carried out between 1928 and 1958 made it possible to discover about thirty anthropomorphic figurines as well as the burial of the young boy accompanied by a pearl necklace, a pendant in the shape of a bird, an ivory tiara, a 'a plaque, an ivory bracelet and stone tools. The body was covered with a stone slab. Paleanthologists thus named the young boy: The man of Mal'ta, 24,000 years old.

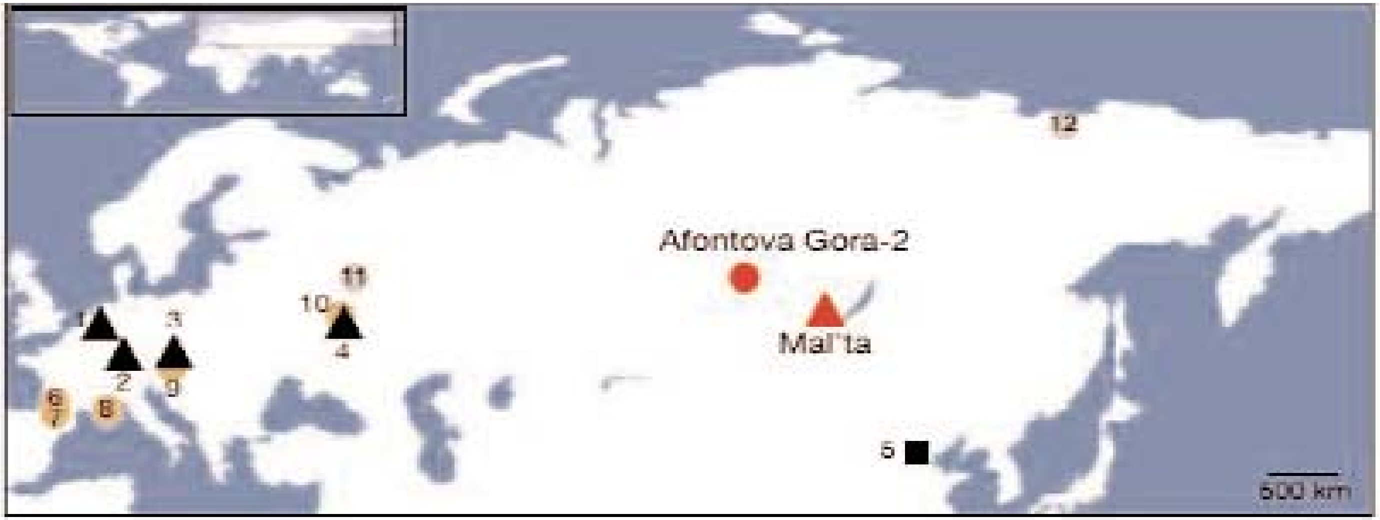


Figure 1 | Sample locations and MA-1 genetic affinities. a, Geographical locations of Mal'ta and Afontova Gora-2 in south-central Siberia. For reference, Palaeolithic sites with individuals belonging to mtDNA haplogroup U are shown (red and black triangles): 1, Oberkassel; 2, Hohle Fels; 3, Dolni Vestonice; 4, Kostenki-14. A Palaeolithic site with an individual belonging to mtDNA haplogroup B is represented by the square: 5, Tianyuan Cave. Notable Palaeolithic sites with Venus figurines are marked by brown circles: 6, Laussel; 7, Lespugue; 8, Grimaldi; 9, Willendorf; 10, Gargarino. Other notable Palaeolithic sites are shown by grey circles: 11, Sungir; 12, Yana RHS.

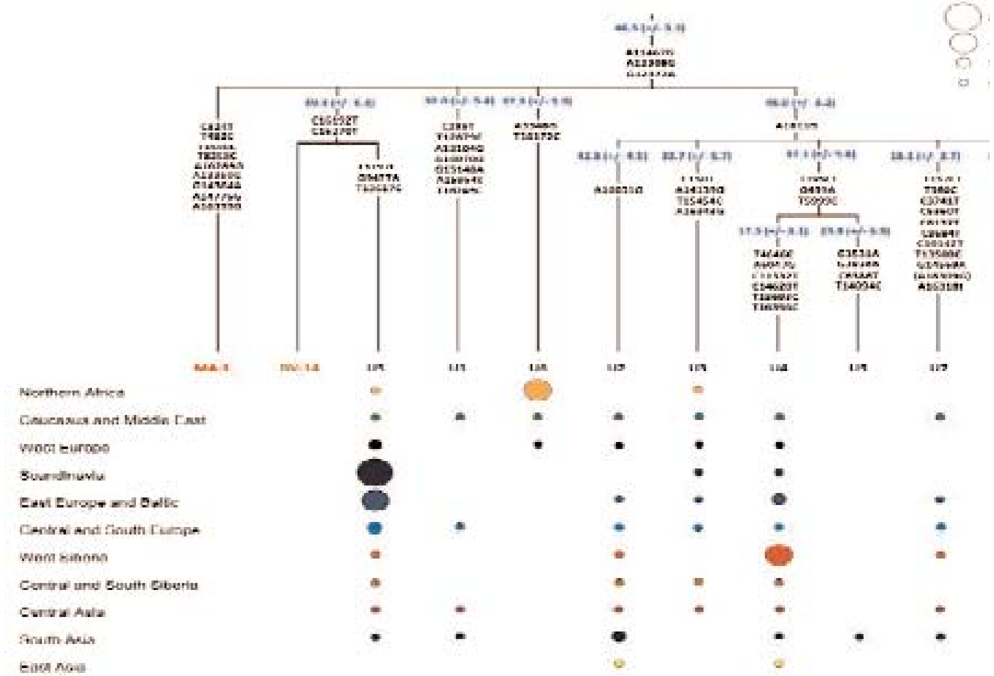
Radiocarbon 14 dates on the bones gave a date of approximately 24,000 years. Mitochondrial, Y chromosome and autosomal DNA tests were performed on this sample named MA-1.

The results of mitochondrial DNA tests place the sample in haplogroup U *: a very rare or extinct line today. The figure below locates the skeleton of Mal'ta (MA-1) in the phylogenetic tree U, as well as a skeleton found at Dolni Vestonice (DV-14) which is 31,500 years old.

Haplogroup: In genetics, this term refers to a group of humans descended from a single ancestor with specific hereditary traits. Genetic characters are passed from father to son (Y chromosome) or from mother to daughter (mitochondria).

The current distribution of haplogroup U encompasses a large geographic area including North Africa, the Middle East, South and Central Asia, Western Siberia and Europe. Haplogroup U has also been found at high frequency in Upper Paleolithic and Mesolithic hunter-gatherers in Europe.

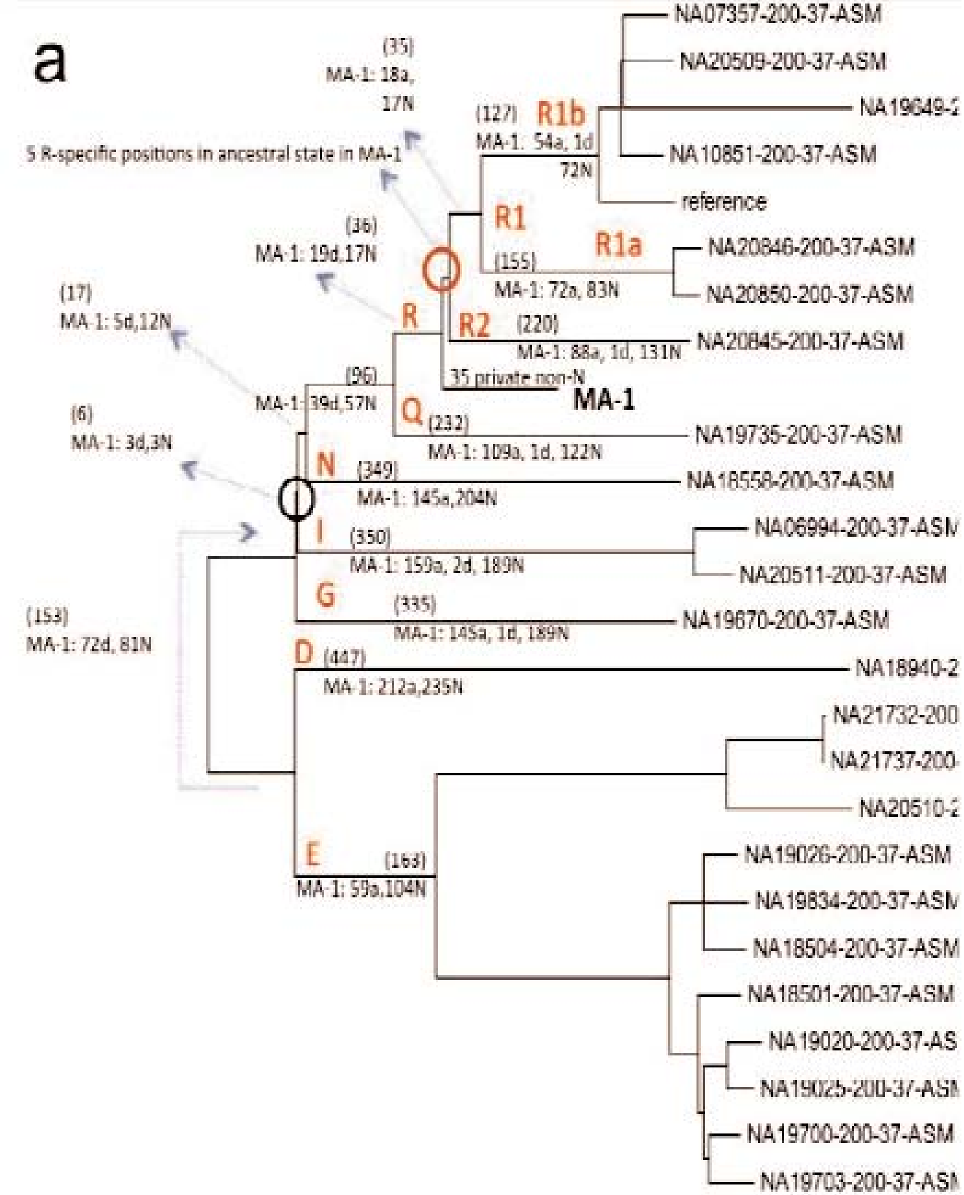
The Y chromosome DNA has been sequenced on 5.8 million base pairs. The results showed that the Mal'ta skeleton is located at the base of haplogroup R: (graphic below)



Haplogroup R currently extends to western Eurasia, southern Asia and the Altai region of southern Siberia. The sibling haplogroup of R: Haplogroup Q is most common among Native Americans. In addition, individuals of haplogroup Q closest to Native Americans located in Eurasia are currently located in southern Altai.

To characterize the autosomal DNA of the Mal'ta skeleton, a principal component analysis encompassing a large global population was performed. The Mal'ta sample is located in a pristine area between Europeans and Native Americans, and away from East Asians. The measurement of the affinity of the Mal'ta skeleton with 147 global non-African populations was performed using a tool called the f3 statistic. The value obtained is proportional to the quantity of genome shared between individuals:

The genetic affinity of the MA-1 skeleton is therefore greater first for the Amerindian populations (red dots) then for the populations of northeastern Europe and northwestern Siberia (yellow dots).



A maximum likelihood tree was constructed from 11 modern genomes of the world population, from 4 Eurasian genomes: Mari (Finno-Ugric population from the banks of the Volga), Avar (Caucasian population), Indian and Tajik (Central Asian population) and Denisova's human genome:

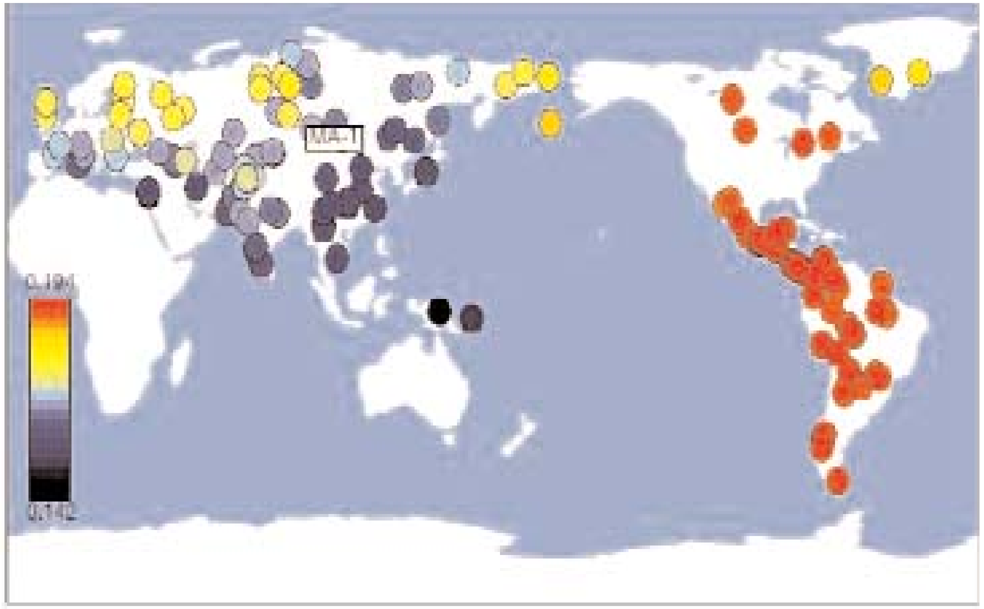


Figure 1 | Sample locations and MA-1 genetic affinities.

. c, Heat map of the statistic f_3(Yoruba, MA-1, X) where X is one of 147 worldwide non-African populations (standar errors shown in Supplementary Fig. 21). The graded heat key represents the magnitude of the computed f_3 statistics.

The Man of Mal'ta is located on a branch at the base of the Eurasian samples. However, a significant residue was found in the covariance of MA-1 and Karitiana: a Native American population. Therefore, gene flow is inferred between these lines, probably from MA-1 to Karitiana, and not the other way around. This gene flow from the Upper Paleolithic population of the Mal'ta region to the ancestors of the Native Americans occurred before the dispersal of the Native Americans as shown by the D tests (Yoruba, MA-1, Han, X). In contrast, Native Americans are closer to East Asians than to Papuans in New Guinea. However, this is not the case with MA-1, which is no closer to East Asians than it is to Papuans. The most likely explanation is that Native Americans have dual ancestry and are the result of a genetic mix between East Asians and West Eurasians.

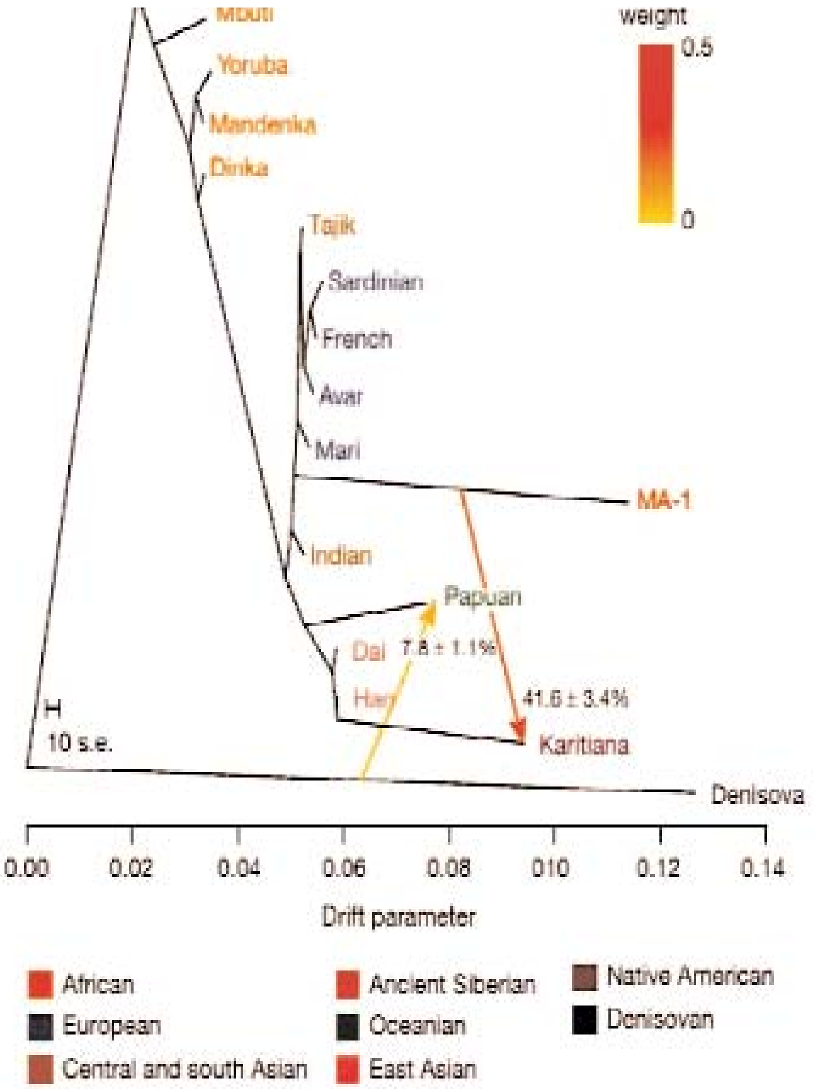


Figure 2 | Admixture graph for MA-1 and 16 complete genomes. An admixture graph with two migration edges (depicted by arrows) was fitted using TreeMix[21] to relate MA-1 to 11 modern genomes from worldwide populations[22], 4 modern genomes produced in this study (Avar, Mari, Indian and Tajik), and the Denisova genome[22]. Trees without migration, graphs with different number of migration edges, and residual matrices are shown in Supplementary Information, section 11. The drift parameter is proportional to $2N_e$ generations, where N_e is the effective population size. The migration weight represents the fraction of ancestry derived from the migration edge. The scale bar shows ten times the average standard error (s.e.) of the entries in the sample covariance matrix. Note that the length of the branch leading to MA-1 is affected by this ancient genome being represented by haploid genotypes.

LHuman dispersions in Northeast Asia just before and after the last ice maximum probably led to migrations to Beringia and then to the Americas. As MA-1 predates the last glacial maximum, the authors tested another skeleton located at Afontova-Gora located on the banks of the Enisei in southern central Siberia. This skeleton is dated 17,000 years ago. The autosomal tests of this sample (AG-2) are similar to those obtained for MA-1. It is therefore closer to Native Americans than to East Asians. This study has four important implications:

§ Today's Native Americans and Western Eurasians share a common ancestry through the gene flow of Siberian populations from the Upper Paleolithic to early Americans.

§ this link explains the presence of the mitochondrial haplogroup X in Amerindians. This haplogroup is present in West Eurasians but absent in East Asians.

§ The transmission of specific characters from West Eurasians to Native Americans occurred via migration across Beringia, rather than across the Atlantic.

§ The presence of a genomic signature from Western Eurasia in the Baikal region before and after the last glacial maximum suggests that south-central Siberia was occupied by humans during the colder periods of the last period glacial.

BERINGY

Today's Aboriginal people are the descendants of groups that came to the Americas in two waves: first about 12,000 years ago and then 9,000 years ago. This provisional dating is set to evolve with the paleo-genetic study of the Blue Fish Cave, which fixes a first wave at around 24,000 years old. These two migratory waves are at the origin of all the Amerindian groups which populate the whole of America at the time of the arrival of Christopher Columbus in 1492. The indigenous population is then estimated at more than 50 million people speaking more of 1,000 different languages. This is according to the American school of anthropology their theory on the subject. On the other hand, recent discoveries made by a French team postpone the arrival of the first migrants to nearly 40,000 years. She draws this conclusion from the cave paintings found at the sites of Pedra Furada in Brazil in 1986 and those of Monte Verde in Chile in 1988. Anyway, it is important to remember here that it is the Jesuit Joseph de Acosta who formulated for the first time, in 1529, the theory of the penetration into America by the Bering Strait of the Siberian hunters.

Migrating from Siberia to Alaska, the Ancestors found themselves in the midst of the tundra and within a few centuries reached the prairie region and the American Southwest via either the MacKenzie River corridor or along the Pacific coast. From there, in a few centuries they colonized both the north and the south of the Americas. These same forests in Canada are home to dozens of Native American tribes like the Cree in the east and the Athabascans in the west.

THE DISPERSION OF THE ANCESTORS IN THE AMERICAS

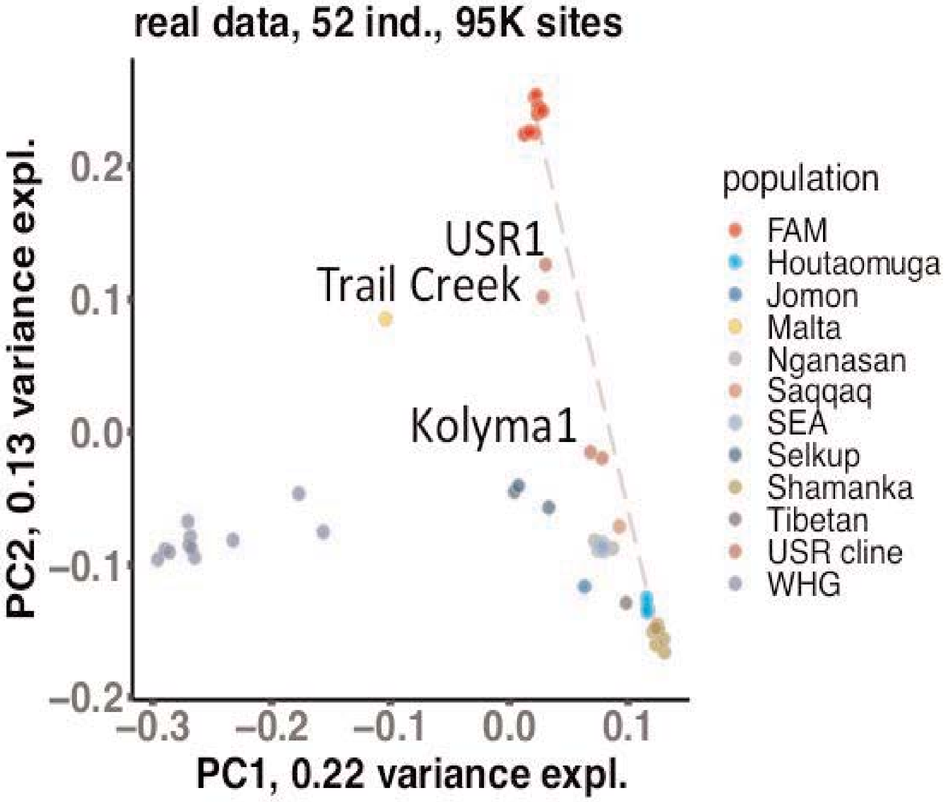
The first genomic studies showed that the ancestors of Native Americans diverged from the Siberian and East Asian populations about 25,000 years ago. Then a divergence occurred between 22,000 and 18,000 years between the Ancient Beringians and the Amerindians who then split into two groups: the North Amerindians and the South Amerindians between 17,500 and 14,600 years south of Eastern Beringia (present-day Alaska) (named after Vitus Behring, a Danish navigator in the pay of the Russians who explored the region in 1728).

THE GENOMIC TRAINING OF THE ANCESTORS OF THE FIRST AMERICANS IN NORTHEAST ASIA

The origin of the population of the Americas is the subject of intense debate in the field of archaeogenetics. Two recent findings are important in this debate. The individual Upward Sun River 1 (USR1) from a double burial of children in Alaska and dated around 11,500 years ago represents a hitherto unknown lineage that diverged from any Native American population between 22,000 and 18,000 years ago, and before the separation between the two main branches relating to the Amerindians of the North and the South which would have diverged between 17,500 and 14,600 years. Two other individuals from the archaeological sites of Duvanny Yar (Kolyma1) in northeastern Siberia, dated 9,800 years old and Ust'-Kyakhta-3 in the Lake Baikal region, dated 14,000 years ago would also represent populations originally from the settlement of the Americas and which would have diverged from the Amerindian populations before the individual of Upward Sun River. Additionally, six early Neolithic individuals from Devil's Gate Cave in the Amur River basin show genetic continuity in this region to date and with a majority of present-day populations in Siberia.

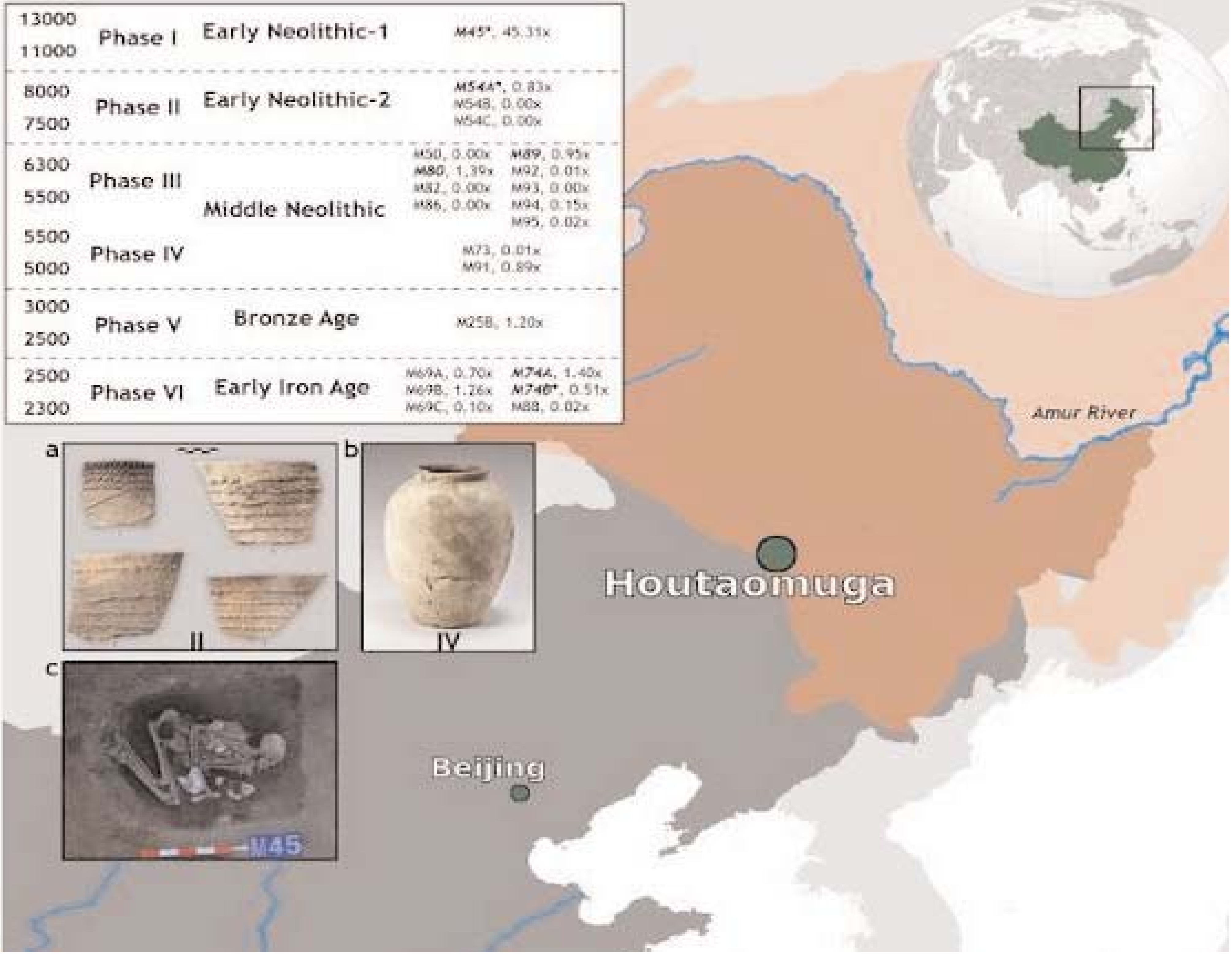
Among these twelve individuals, six were eliminated due to contamination. Among the last six individuals, only three do not have West Eurasian ancestry: two individuals from the Early Neolithic and one from the Iron Age.

The authors performed Principal Component Analysis to compare the genome of these individuals to that of other ancient or contemporary individuals. In the figure below, the western hunter-gatherers (WHG) are located on the left (gray disks), the early Americans (FAM) at the top (red disks) and the individuals of Houtaomuga at the bottom right (disks cyan), close to other populations of the Amur Basin region:

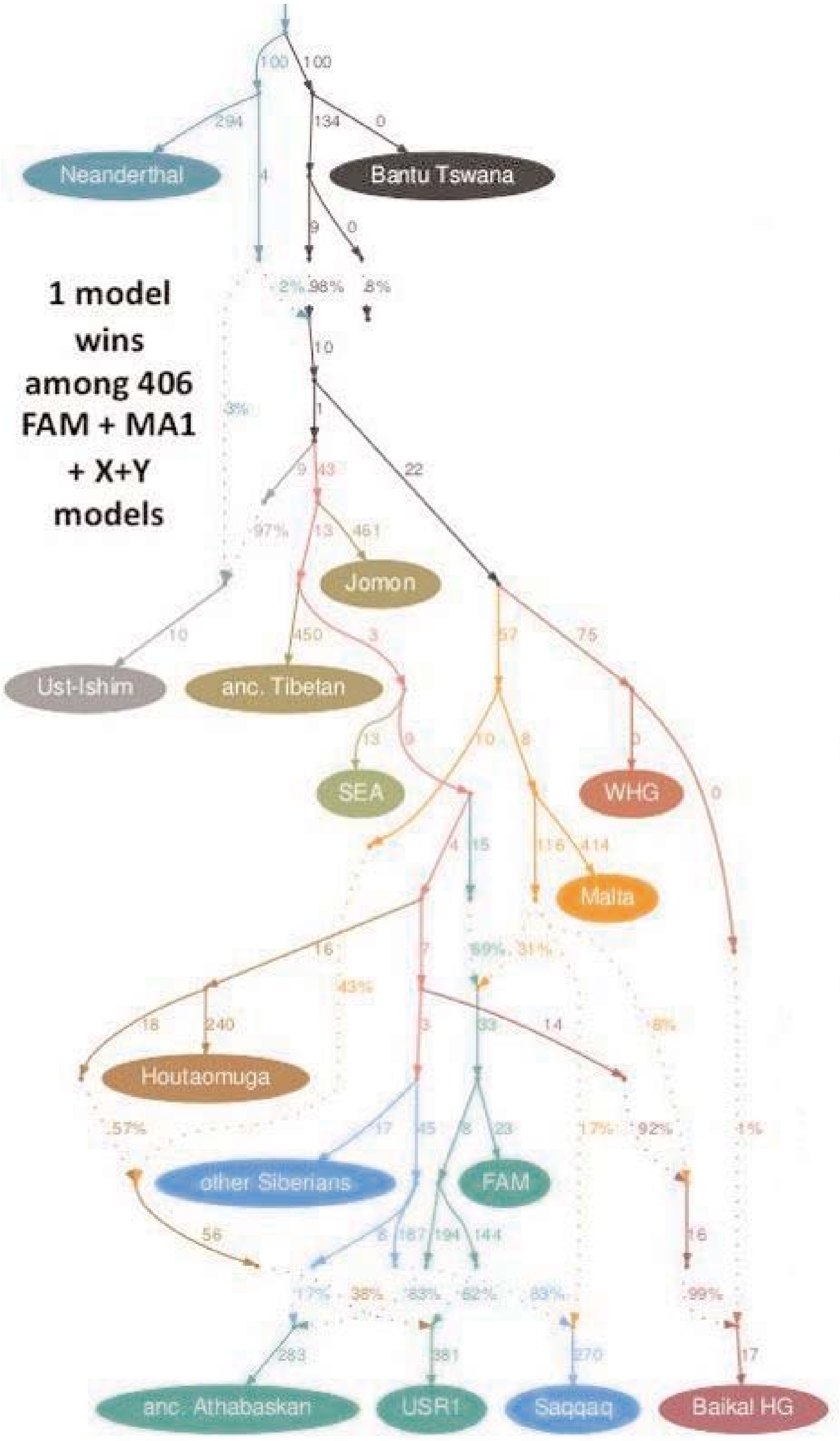


Interestingly, the two individuals USR1 and Kolyma1 fall between the Early Americans and the populations of East Asia. Interestingly, the two individuals USR1 and Kolyma1 fall between the Early Americans and the populations of East Asia. The authors then used the qpAdm and qpWave software to construct a demographic graph to highlight the different genetic mixtures:

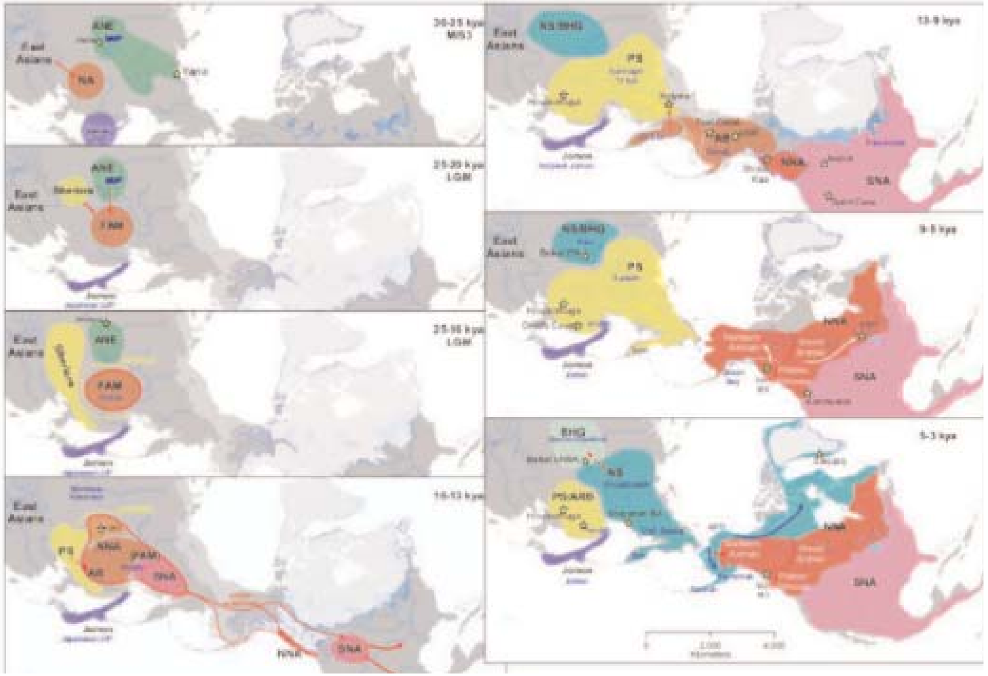
According to this model, the individual USR1 would come from two ancestral sources. The first includes a mix between the First Americans and a population close to the boy of Mal'ta (ANE). The second source includes another population close to the boy from Mal'ta and a population close to individuals from Houtaomuga. This last component represents between 6 and 35% of the genome of USR1.



13000 11000	Phase I	Early Neolithic-1	***M45****, 45.31x
8000 7500	Phase II	Early Neolithic-2	***M54A****, 0.83x M54B, 0.00x M54C, 0.00x
6300 5500	Phase III	Middle Neolithic	M50, 0.00x ***M80***, 1.39x M82, 0.00x M86, 0.00x ***M89***, 0.95x M92, 0.01x M93, 0.00x M94, 0.15x M95, 0.02x
5500 5000	Phase IV		M73, 0.01x M91, 0.89x
3000 2500	Phase V	Bronze Age	M25B, 1.20x
2500 2300	Phase VI	Early Iron Age	M69A, 0.70x M69B, 1.26x M69C, 0.10x ***M74A***, 1.40x ***M74B****, 0.51x M88, 0.02x



Interestingly, the First Americans and the individual USR1 are not part of a single branch. The Native American source in individual USR1 belongs to the Native American North branch only. In addition, there is no gene flow from a population close to the Mal'ta boy in the common ancestor of USR1 and the First Americans. In conclusion, the most probable interpretation of these results is that the divergence between the North and South Amerindian branches occurred in Asia immediately after the end of the Beringian isolation which in fact must have taken place outside Beringia:



This model explains the presence of the Amur River basin signal among the ancient Beringians without invoking several passages through the Bering Strait for which there is no clear archaeological evidence. The authors assume that the South Amerindians were the first to cross the Bering Strait, followed by the North Amerindians who had time before to interact with the populations of the Amur Basin. This hypothesis also facilitates the interaction with the Y population close to the Onges or the former Tianyuan individual and identified in the genome of some Amerindian populations.

THE SEPTENTRION.

Simple geography is always coupled with a sacred and mythical geography of the cardinal points present in the Greco-Latin tradition, as well as in Eurasia, India, China, and even in certain African regions:

"The north is frequently under the sign of the male, of creation, of strength, of light, of virginal innocence and of justice, the south being" female "and" matrix ".

Apollo, the most singular Greek god, is the god of the North, the god of the Hyperboreans. In the Middle Ages and the Renaissance, the geographico-mystical tradition of Guillaume Postel located paradise at the North Pole. In the 17th century, the North Pole was often valued as a chasm of water and as a place of rebirth and death. In the 19th century, learned geography considered it to be a sea "free of ice". Finally, the Polar Star, a reference for all navigators, is often considered as the absolute center around which the sky revolves, the "navel" of the sky for the Yakuts, the "pillar" for the Lapps ".

A diffuse belief in Greek thought, the basis of Apollonian cults, sees the Hyperborean, descendant of giant half-divine peoples of antediluvian times, therefore living in the Far North, the legendary space of happiness. One can wonder if myths preserving the cult of "great ancestors" do not have real origin, a history and a geography, those of the Mediterranean populations, and of the successive migrations of nomadic peoples of Central Asia from periglacial countries: the Caucasus, Scythia, Mongolia. The nostalgia for an original space, uniformly white, a color that has become a symbol of purity and peace, would thus be preserved through myths; a nostalgia for a golden age lost at the Pole where the Hyperborean fraternally pursued a community life with the gods without waging a war with neighboring peoples; an arctic society of strong men and

"North, mountain, primordial humanity, happy and immortal people: these ideas are found as if in nest in several ancient civilizations. Fragments of these mythical ideas are found scattered in all civilizations as far as the Arctic.

This northern space has a name: Thule. Thule- Tele: far; Thu-al: North (Celt); Tholos or Tolos: fog (Greek); Tula: balance (Sanskrit); Mexican Tulor is in the esoteric tradition, the Distant Earth, the White Island, the Pole of Lights, the Sanctuary of the World. Thule, bay of the Polar Star, is directly above the celestial Pole. Like Jerusalem, Judeo-Christian pole or Mecca, with the Kaaba , pole of Islam, Thule is the pole of the hyperboreans. "

"The name of Thule, cited for the first time by the navigator Pythéas, goes back to the first Indo-European populations; it has taken on a different nuance in each language: Thuath in Gaelic means" the north "or" the left ", Thyle in Old Saxon and Tiule in Goth mean "the extreme limit" and, in Sanskrit, Tula, "Libra", designates the constellation Ursa Major located in the North. This distant island, this sacred hill, located "over there" in the North-West, is the island of the Other World, the Irish Sid, Celtic paradise, haven of peace and delight where time passes forever, without disease, without moral constraints or social hierarchy. Thule, fabulous island where the days are endless, mythical land on which we will tell wonderful things.

Around the name will thus be built over time and cultures, a whole labyrinth of myths joining Hyperborea, even Atlantis, but also of travels and real discoveries. The magic of the name of Thule rests perhaps precisely on the fact that it constantly mixes the real and the imaginary, the geography and the history but also the mythological poetry, source of literature. Ironically, the fate of Thule can be traced back to the story of a journey, a source of heated debate on the part of geographers from antiquity, to the Middle Ages and the Renaissance. A story largely lost but alive in the memories and whose inaccuracies precisely open a breach from which the imagination and myths can emerge. The expression "Ultima Thule" has crossed the centuries to reach us, haloed by the magic of distant lands and the mystery of the limits of the known world. This is how poets and philosophers from the beginning of the Roman Empire, such as Seneca and Virgil, were the first to use it, far from the ongoing debates around geographic reality. Those who came after were content to take up the romantic image of Thule, which, like all good images, borders on the unreal and fascinates.

It suffices to arouse the enchantment to listen to the magic name as evoked by the first line of a ballad. "he was a king of THULE… ..." "This myth of Thule will be taken up in all literatures, in the Middle Ages in the cycle of the Round Table, and in the romantic period by Goethe in his lyrical Ballade du roi de Thule. This sung poem, or lied, will be set to music by Gounod and Berlioz. Goethe sings this noble distant kingdom where faithful love (like the myth) transcends time: Es war ein Kônig in Thule ... This ballad , translated by Gérard de Nerval, had an immense success. Ultima thule, the magic of the word, the mysterious evocation of the unfathomable rests moreover perhaps more on the consonance of the syllables striking the ear and therefore on the music of the sentence, that on a precise geographical description which will always be lacking.

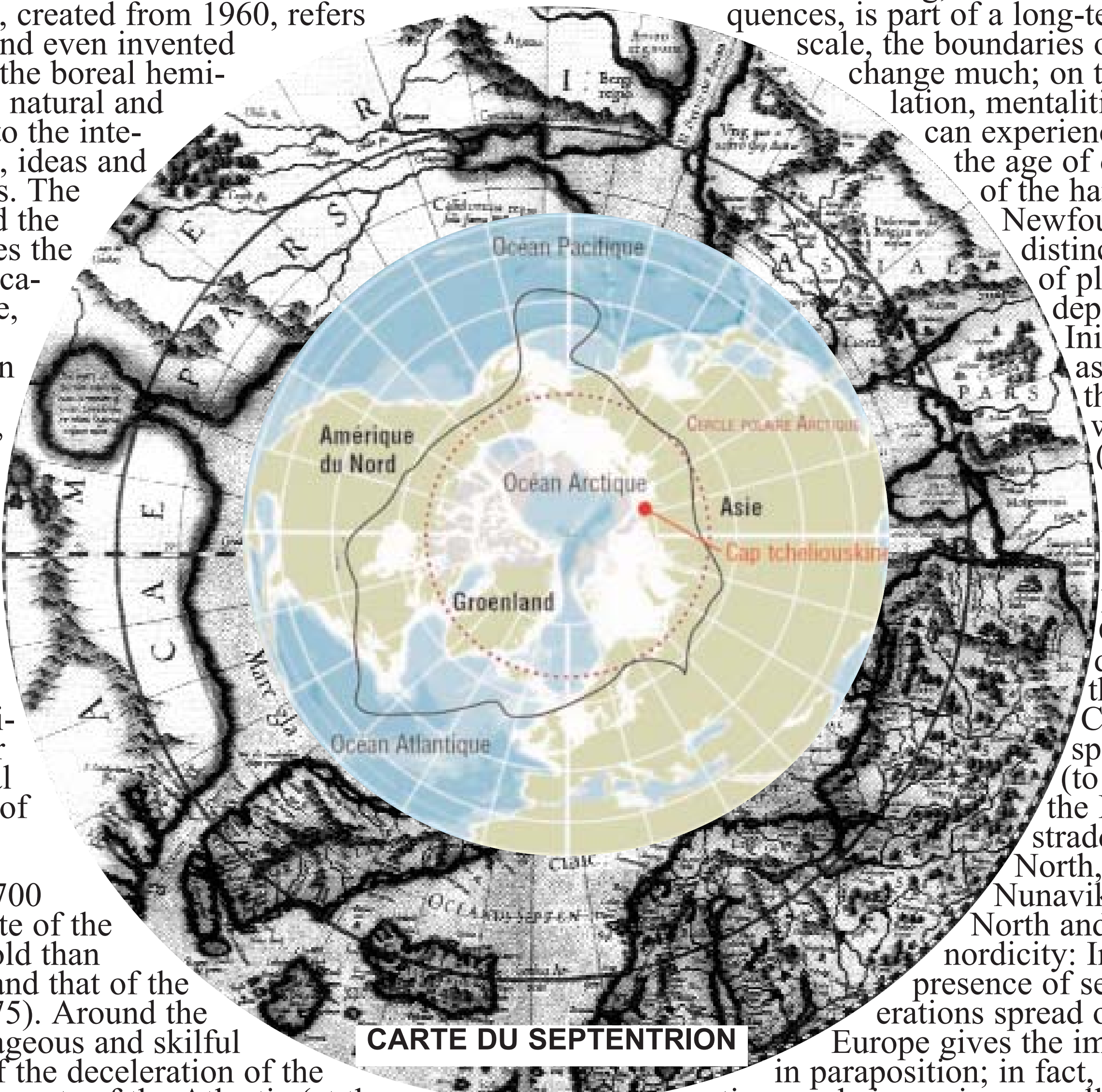
NORDICITY

Canada is one of the circumpolar countries and as such, geographers have developed a particular concept of study called nordology.

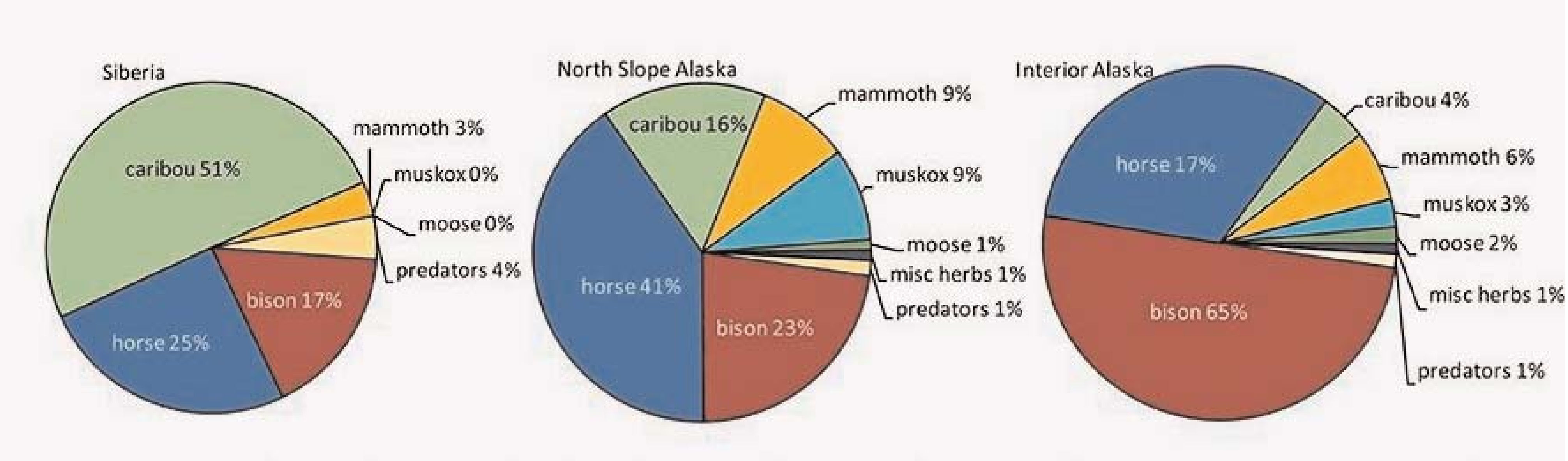
This term is a Canadianism created by the Quebec geographer Louis-Edmond Hamelin designating the physical, climatic, sociological and even psychological state of the Middle and Far North. The global concept of "nordicity", created from 1960, refers to the perceived, real, lived and even invented state of the cold zone within the boreal hemisphere. He is interested in all natural and human themes that can lead to the integrated understanding of facts, ideas and interventions in high latitudes. The approach, which goes beyond the pure intellectual act, envisages the advent of technological applications concerning, for example, habitability and expects the individual to evaluate his own activities. Nordicity, rather than being a sectoral domain, considers the whole of the North and the whole of the North as a whole. The French and English dictionaries consider the word to be Canadianism. Even if we remain insufficiently informed and reduced to fragile hypotheses, there is a paleo-nordicity. Through various dating methods and other documents, researchers reveal the temperature and cultures of past centuries.

Thus, from the years 400 to 700 until 1300 to 1500, the climate of the northern zone appears less cold than that of the preceding period and that of the later period (until around 1875). Around the year 1000, the Vikings, courageous and skilful navigators, took advantage of the deceleration of the cooling to reach the western coasts of the Atlantic (at the historic site of L'Anse aux Meadows in Newfoundland). There seems to be more. The parts of the country close to Alaska bear the astonishing testimonies of cartographers like Mercator in 1595. How, without knowing anything, could these European scientists have mentioned the "Bergi regio" (the Cordilleras), traced the Strait of ' "Anian" (Bering) between Asia and America, as well as drawing the Mackenzie Delta where it is, just north of the Arctic Circle? Northwestern Canada is known from the Pacific, without reference to the land migrations of Asian peoples some 24,000 years ago. These penetrations in America must also benefit from advantageous periods from the point of view of the environment. The future will tell if the current warming, which would have contradictory consequences, is part of a long-term trend. On a generation scale, the boundaries of permafrost or taiga do not change much; on the other hand, those of population, mentalities and economic productions can experience significant movements. At the age of discoveries, especially because of the harshness of winter, Canada and Newfoundland were considered to be distinctly cold countries. Nordicity of places: The definitions of North depend on the criteria chosen. Initially, the Arctic is considered as a space of night or polar day, the freezing of the subsoil as well as the absence of trees (beyond the "Tree Line").

Compared to the nordicity of Norden (Finno-Scandinavia) and even to that of northern Russia, that of northern Canada is more severe, which does not favor colonization there. Regions of Northern Canada: Indigenous political spaces are inter-zonal. Nunavut (to the northeast and center) and the Inuvialuit (to the northwest) straddle the Far North and the Far North, while the territory of Nunavik-Labrador does so in the Far North and the Middle North. Zonal nordicity: In the Canadian North, the presence of several hundred small agglomerations spread over a territory larger than Europe gives the impression of microcosms living in paraposition; in fact, at least through telecommunications and air services, small communities and towns are linked to each other as well as to the mighty south of the country.



CARTE DU SEPTENTRION



Other Beringian bio-artifacts

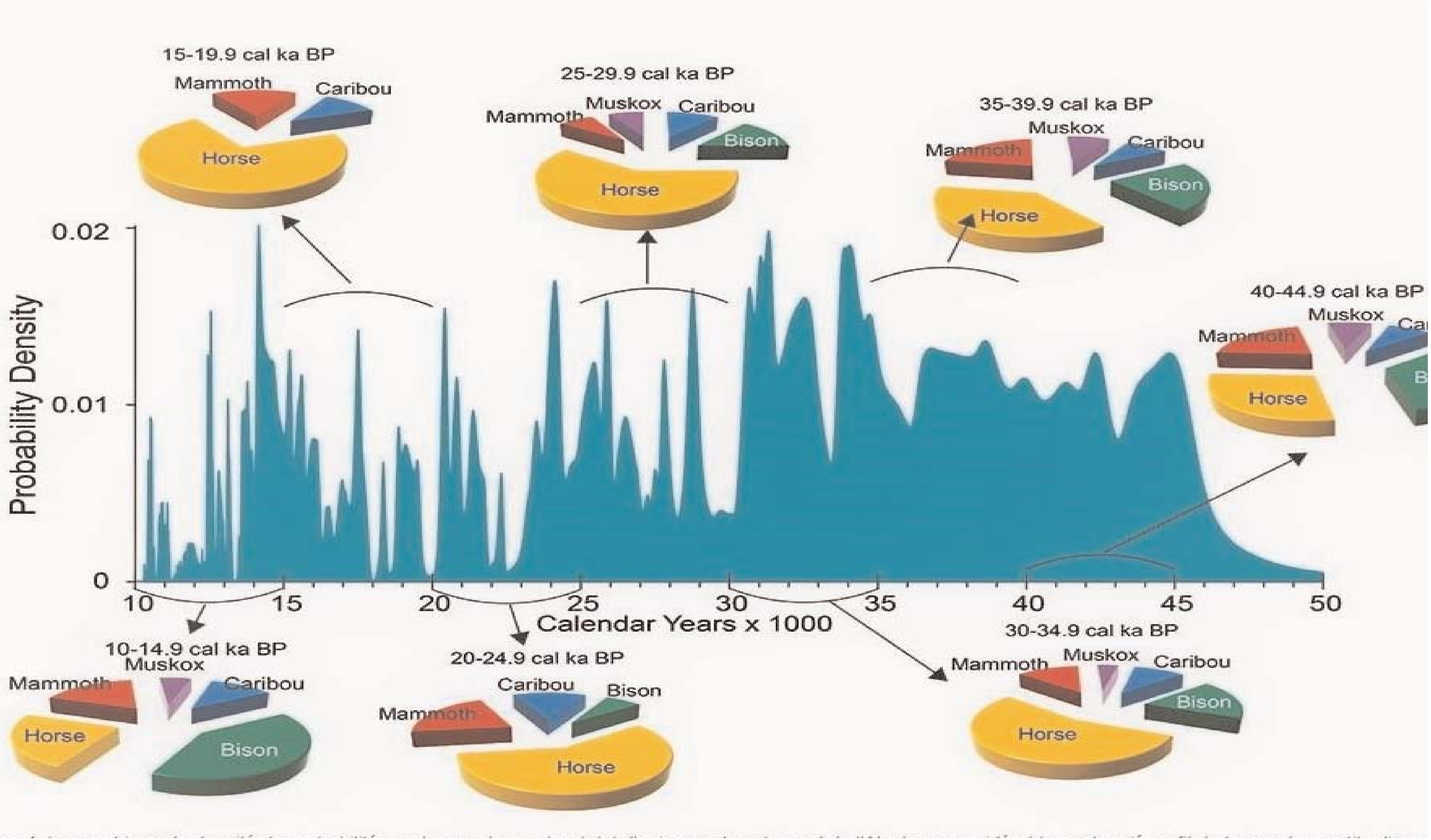
Being so far north, Beringia is its own freezer and has preserved the remains of many of its ancient inhabitants. The most spectacular finds have taken place in western Beringia, Siberia, where mummies and skeletons of extinct Pleistocene mammals have been found. Mummies and skeletons are not as common in eastern Beringia, but in the 1980s a Steppe Bison mummy was found near Fairbanks. The mummy, named Blue Babe, is now on display at the University of Alaska Museum.

The individual bones of these mostly extinct animals are much more common. These bones are not mineralized fossils like most dinosaur remains, but are still bones, sometimes with marrow inside. Because the bones have been frozen, they tend to be well preserved and are suitable for a variety of isotope and DNA analyzes. Miners across Beringia regularly display Pleistocene megafauna bones in search of mineral treasures. Some rivers also expose bones as they meander through their valleys. The Bering Land Bridge National Preserve in Northwestern Alaska and other parks in Alaska were the source of many Pleistocene bones. Most of these bones are individual disarticulated bones, although skeletons like that of "Bison Bob" were rarely found in northern Alaska in 2012.

By simply identifying the bones, we can find out which species were present and where they are. relative abundance of these species in different environments. From there, it is immediately evident that Beringia was not a large, homogeneous ecosystem, but was made up of diverse ecosystems. For example, at the end of the Pleistocene. 45,000 to 11,700 years ago) in Siberia, caribou were the most common species, followed by horses and bison, while in northern Alaska, horse was most common followed by bison and caribou, and in the interior of Alaska, bison dominated the landscape followed by horse and mammoth.

Almost all of the dating obtained on Beringian remains from the Pleistocene come from disarticulated bones and therefore come from 14C analysis. Therefore, most of our information on the ages of Beringian megafauna dates from the late Pleistocene.

Hundreds of 14C dated bones from northern Alaska show that in addition to being spatially diverse, the relative abundances of different species have changed over time. In particular, the relative numbers of horses and bison have changed over the past 45,000 years, suggesting that climatic and environmental fluctuations have favored some species differently over others.



This resulted in a more continental climate with little rainfall and clear skies: conditions that produced a unique biome called the Mammoth Steppe, unlike anything found in Beringia today.

The climate was too cold for the trees, and the dry conditions favored steppe grasslands, which provided abundant food for the grazing megafauna; Upper Pleistocene megafauna were grazers, not grazers (or xylophages). Dry grasslands and low snow levels also provided a firm substrate on which ungulates could easily walk throughout the year.

Modern Beringia is covered with vast expanses of permafrost, peat moss, spongy tundra vegetation, and boreal forests consisting mostly of conifers. Much of it is buried in snow for half the year, and in the cool, wet summer it swarms with mosquitoes. This modern ecosystem is home to a fraction of the animals that lived there during the Pleistocene. So what was different? Unsurprisingly, the climate was generally colder and drier during most of the Pleistocene, which would seem to make it less welcoming to megafauna.

Because the sea level was much lower, Beringia's land mass was larger and included the vast Bering Land Bridge. This resulted in a more continental climate with little rainfall and clear skies: conditions that produced a unique biome called the Mammoth Steppe, unlike anything found in Beringia today. The climate was too cold for the trees, and the dry conditions favored steppe grasslands, which provided abundant food for the grazing megafauna; Upper Pleistocene megafauna were grazers, not grazers (or xylophages). Dry grasslands and low snow levels also provided a firm substrate on which ungulates could easily walk throughout the year.

The Mammoth Steppe was a complex biome that changed over time and across the region. The result was a mosaic-like ecosystem that varied in response to an ever-changing climate. During the Pleistocene, the climate changed much more drastically than in the last 10,000 years, the period known as the Holocene, a remarkably stable climatic period compared to the previous million years. The unstable Pleistocene climate caused rapid changes in plant communities and thus the food of megafauna herbivores. The abundance and distribution of these animals would have varied in response to the changes. Being large, megafauna could have moved across the landscape following patches of favorable habitat both seasonally and over longer time scales.

Due to low snow levels and clear weather, greening would have been earlier than now, so Mammoth Steppe's growing season would likely have been longer. The clear skies of a continental climate may have allowed for warmer temperatures during the growing season than what occurs with modern cloudier weather. The soils of the Mammoth Steppe were therefore drier, warmer and more fertile than today. This would have improved plant productivity and megafauna, which could graze around the clock and grow in size during the summer. With the growth of nutritious plants, megafauna could also have consumed enough in the summer to build up reserves to help them survive the long, cold winter.

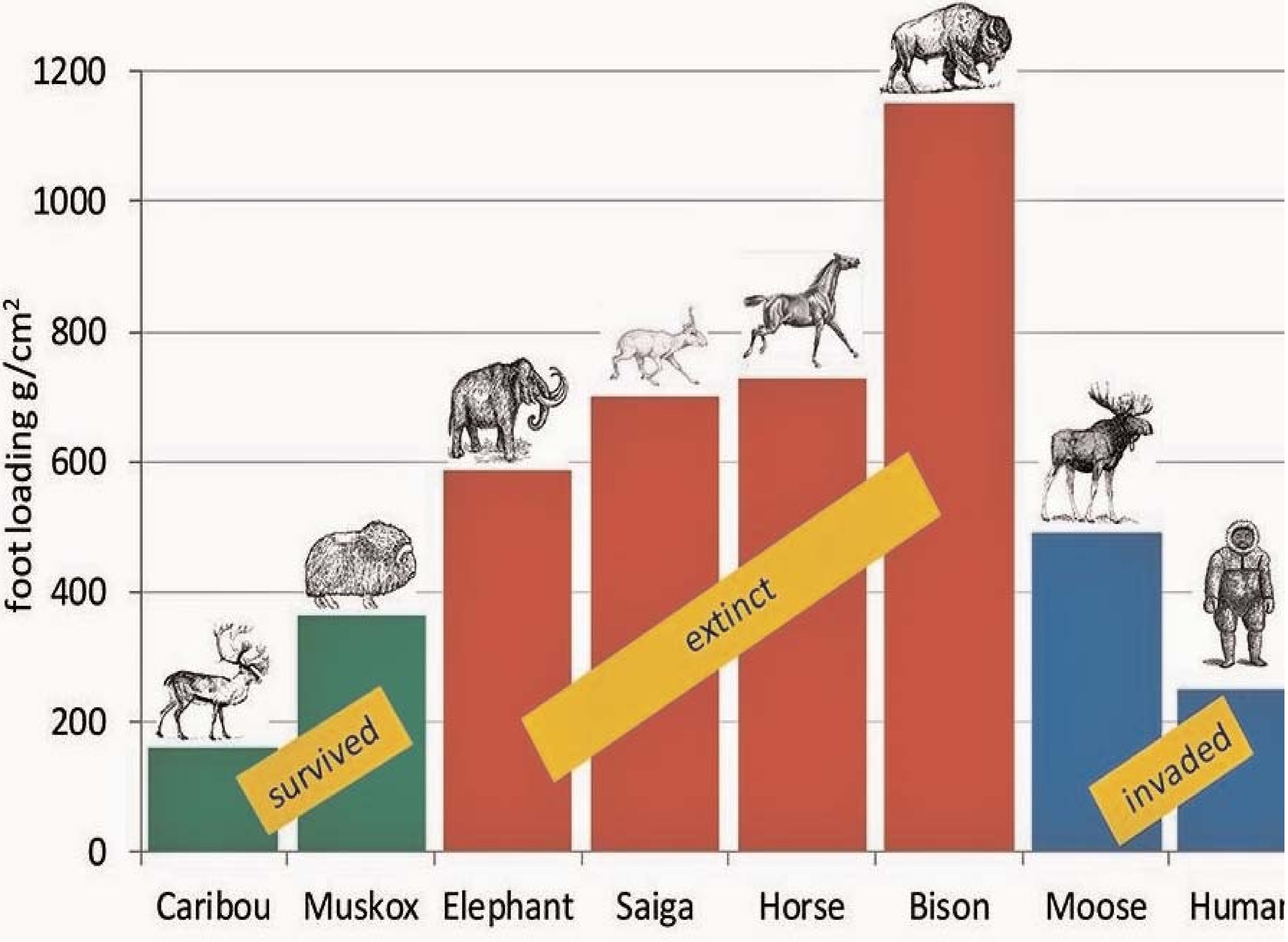
It was a complete megafauna ecosystem with herbivores and predators consuming them. Like most ecosystems, there were many more herbivores than carnivores. Short-faced giant bears may have mostly scavenged already dead herbivores, but brown bears, lions, and wolves undoubtedly hunted and killed their prey. Radiocarbon dating suggests that lions may have specialized in horse hunting.

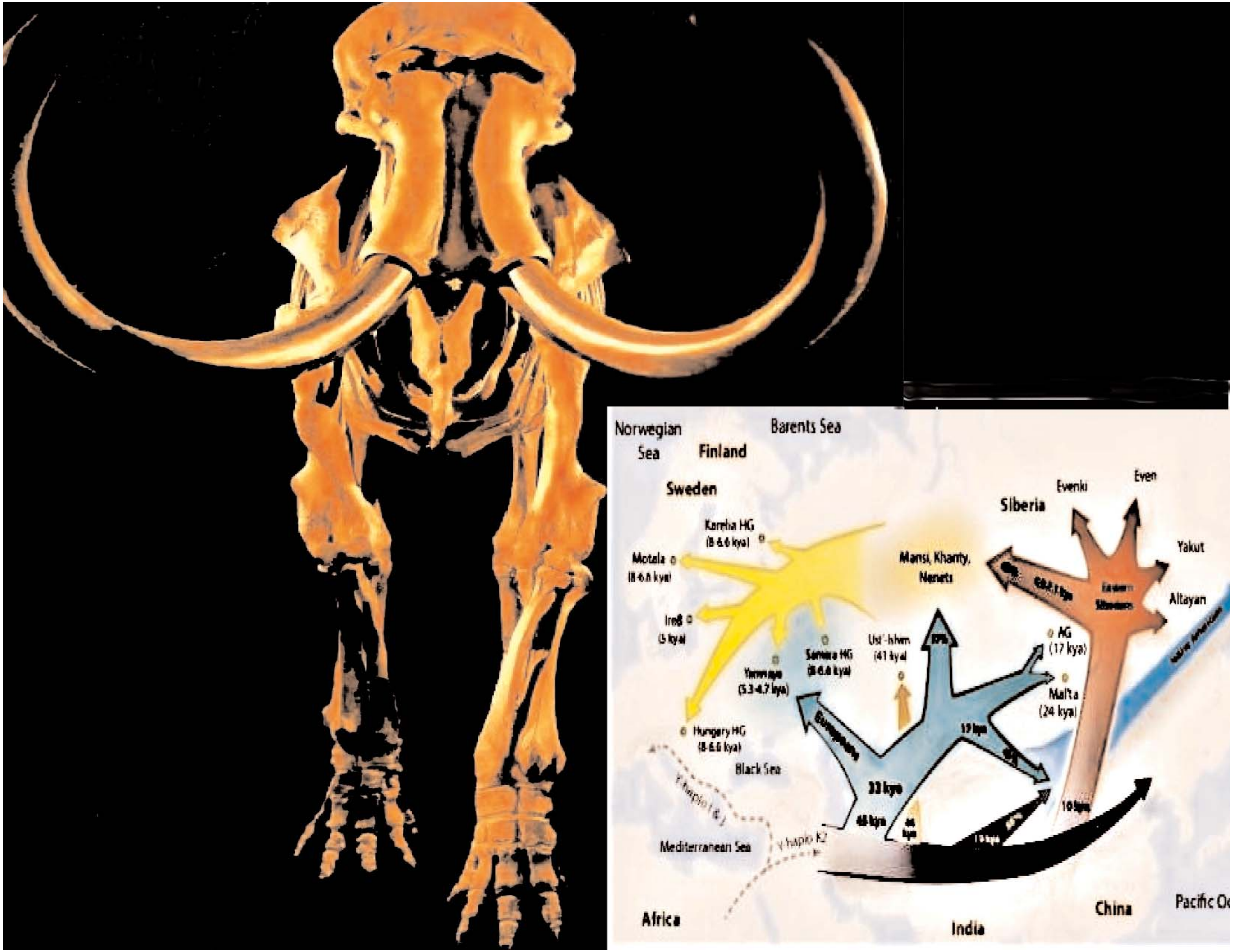
What happened to each of them?

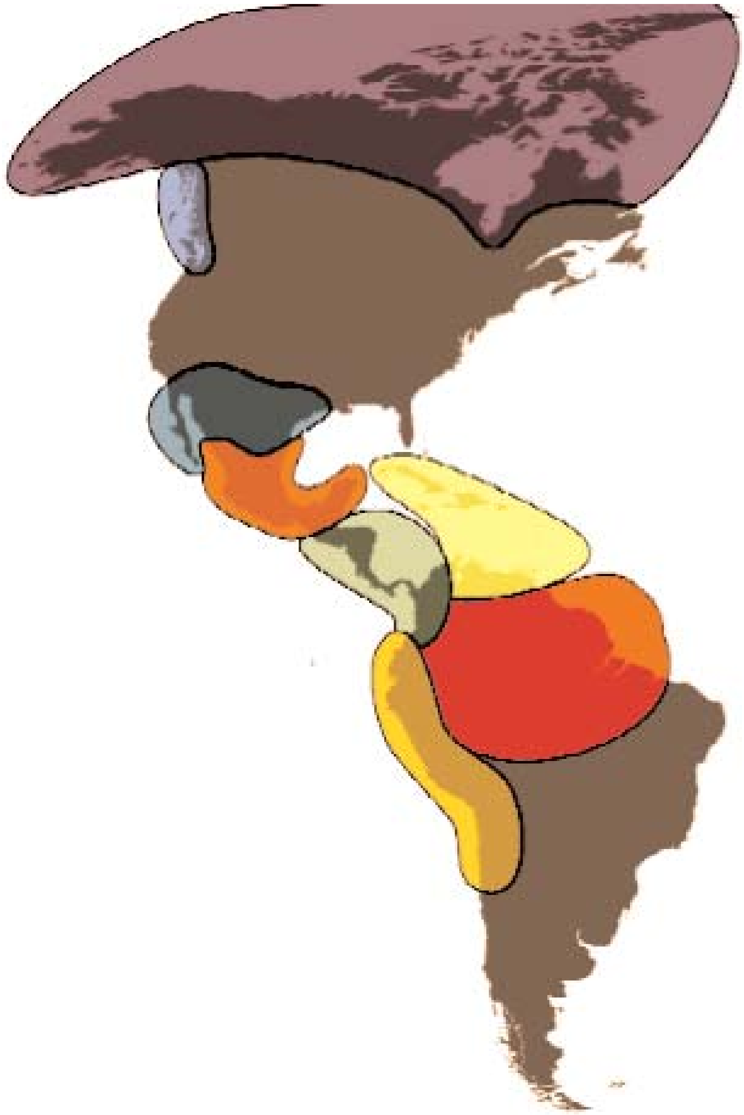
The Mammoth Steppe ecosystem disappeared at the end of the Pleistocene. Some experts argue that humans are responsible for the extinctions of megafauna, but through Beringia we know that humans have coexisted with extinct species for long periods of time. Dates documented in 14 C show that humans in Alaska have ridden horses, bison, and lions for over 1,000 years and possibly mammoths as well, and we lack evidence of overhunting of these animals. The region of Beringia is large and the primitive human population was small. A more likely explanation for the extinctions is that the prolonged warming at the end of the Pleistocene caused environmental changes that did not favor the Mammoth Steppe megafauna.

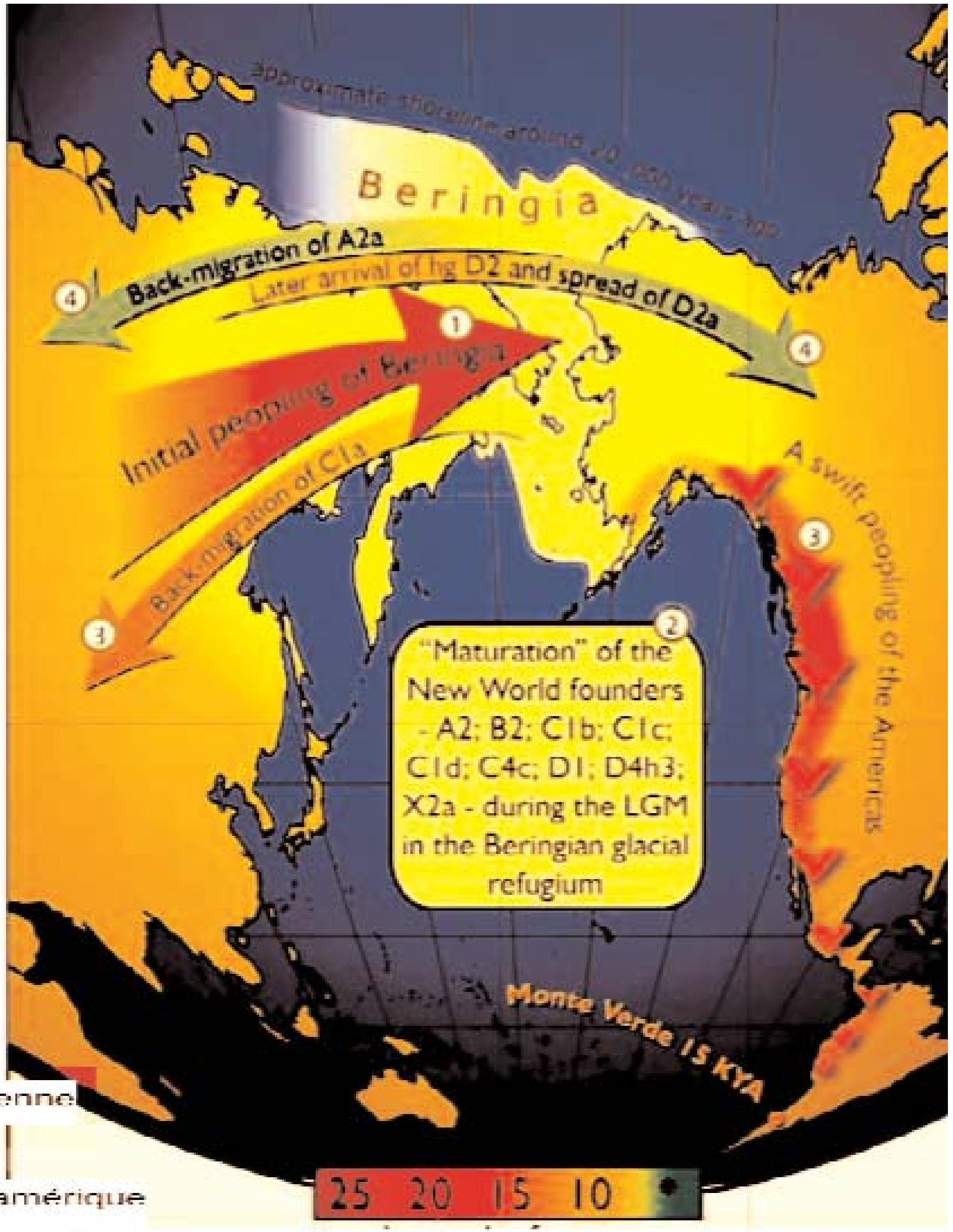
When the climate warmed, it got wetter. Shrubs would have invaded the region and replaced the meadows. Many shrubs contain chemicals that protect them from grazing by herbivores and they are not suitable for grazing animals. With the melting of the glaciers and the rise in sea level, the climate would have become more maritime, with an increase in precipitation and cloud cover. Despite the general warming trend, the summer growing season would have been wetter, shorter and probably cooler due to the decrease. As these changes persisted, peat would have spread throughout the landscape and adversely affected the megafauna. Peat is not a nutritious food and it isolates the soil favoring the spread of permafrost, creating a waterlogged and inedible substrate.

The spongy substrate and the deeper winter snows would have had a negative impact on the megafauna. Most of the megafauna would have had difficulty walking in deep snow or spongy ground due to their small feet compared to high body weight (high foot load). They should have spent more energy walking at the same time as food resources were scarce. The megafauna herbivores that disappeared from Beringia had a high foot load, while the caribou and muskox that survived changes in the modern climate have a low foot load, which allows them to move around more easily. . in the current landscape. Moose and humans that have settled in the area as the shrubs have invaded also have the territories of extinct megafauna.


foot loading g/cm²
1200
1000
800
600
400
200
0
Caribou
Muskox
Elephant
Saiga
Horse
Bison
Moose
Humar
survived
extinct
invaded


Norwegian Sea
Barents Sea
Finland
Sweden
Siberia
Evenki
Even
Yakut
Altayan
Karelia HG (8-6.6 kya)
Motala (8-6.6 kya)
Mansi, Khanty, Nenets
Ire8 (5 kya)
AG (17 kya)
Samara HG (8-6.6 kya)
Ust'-Ishim (41 kya)
Yamnaya (5.3-4.7 kya)
Malta (24 kya)
Hungary HG (8-6.6 kya)
19 kya
Black Sea
33 kya
Y-haplo I
Y-haplo K2
45 kya
10 kya
Mediterranean Sea
Africa
India
China
Pacific Oc




approximate shoreline around 20,000 years ago
Beringia
Back-migration of A2a
Later arrival of hg D2 and spread of D2a
④
①
Initial peopling of Beringia
Back-migration of C1a
③
②
"Maturation" of the New World founders - A2; B2; C1b; C1c; C1d; C4c; D1; D4h3; X2a - during the LGM in the Beringian glacial refugium
A swift peopling of the Americas
Monte Verde 15 KYA
25 20 15 10

Principales aires culturelles de l'Amérique précolombienne

⬛ Arctique ⬛ Nord-Ouest des États-Unis ⬛ Aridoamérique

⬛ **Canada- USA**

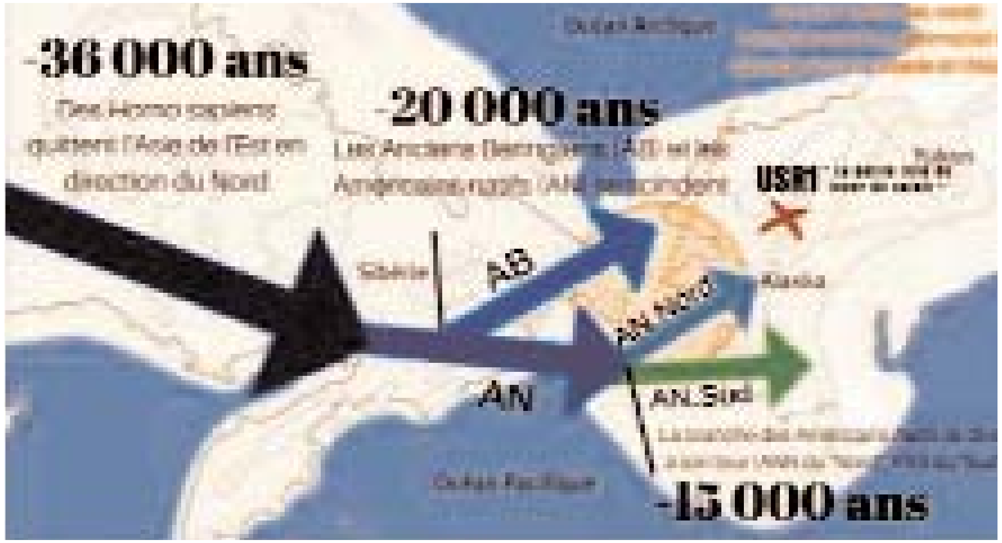
🟥 Mésoamérique ⬛ Aire isthmo-colombienne 🟨 Caraïbes 🟥 Amazonie 🟫 Andes

THE LITTLE GIRL OF THE BERINGIAN SUN

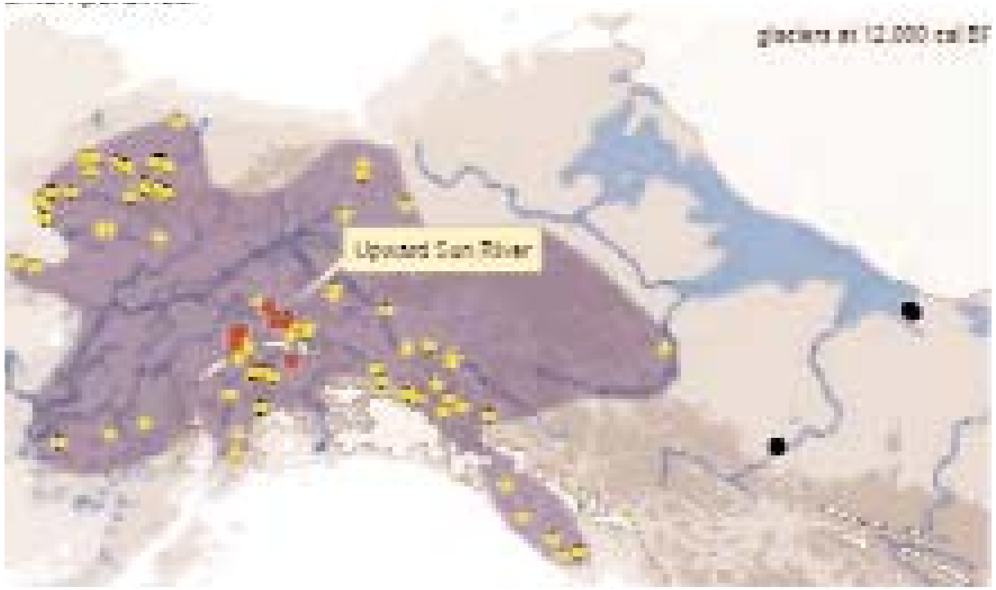
Analysis of DNA found in the fossilized bones of a baby unearthed in Alaska in the United States, reveals the existence of an ancient population previously unknown: The Beringians. At least that's what genetics, more precisely paleo-genetics, tell us. Beringia was not only a land of passage but also a territory invested, inhabited and exploited for several millennia.

The female baby died at the age of six weeks. His remains were discovered in 2013 at the Upward Sun River archaeological site. The local community, the Healy Lake tribe paid homage to her by baptizing her "Xach'itee 'aanenh t'eede gaay" or "little girl of the sunrise". This young girl has one of the two oldest genomes ever discovered in North America, but its peculiarity lies more in the fact that it belongs to a hitherto unknown population of humans that archaeologists have called the "Ancient Beringians. ".

In fact, these ancient Beringians are probably the first Native American people in North America, an earlier and distinct population from other known Native American populations.



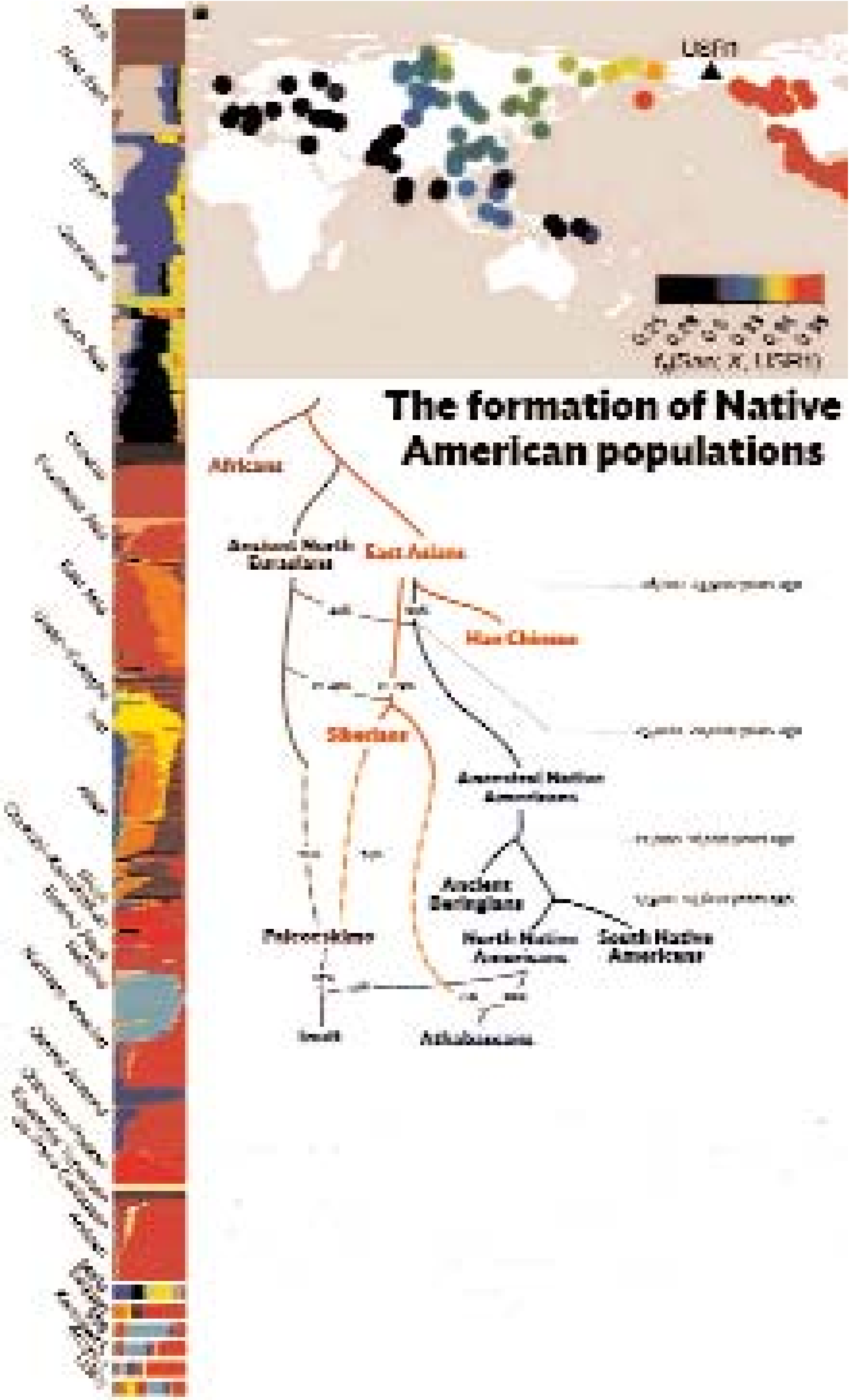
Additionally, genetic analysis and demographic modeling indicate that a single founding Native American ancestral group separated from the East Asians approximately 36,000 years ago. Then 20,000 years ago, this people split into two groups: the ancient Beringians and the ancestors of all other Native Americans. These last would have skirted the Pacific coast of the continent, the only way undoubtedly allowing the first Amerindians to feed themselves easily by exploiting the resources of the sea.

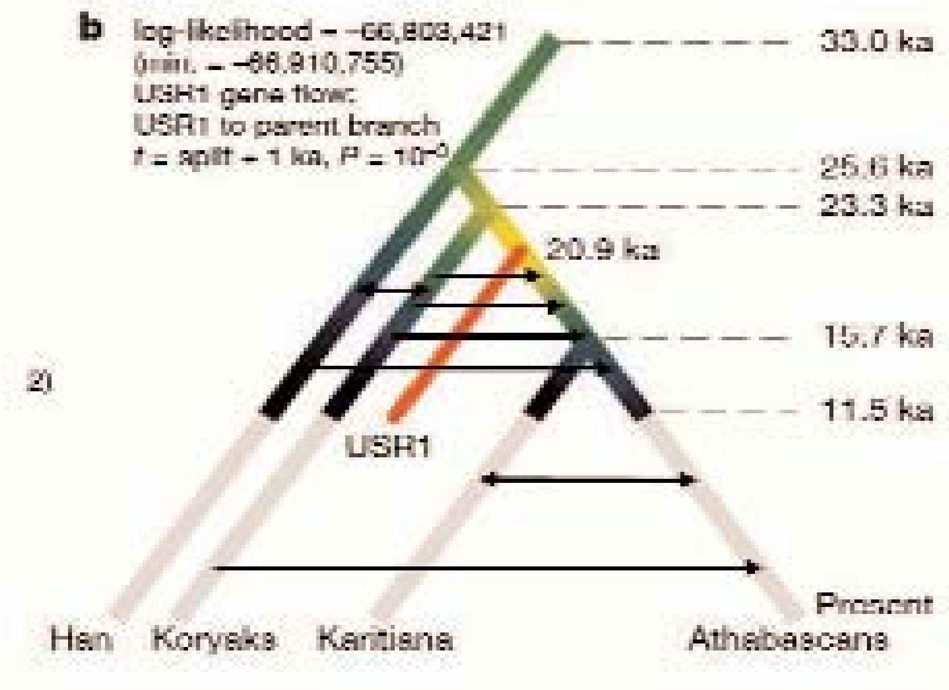


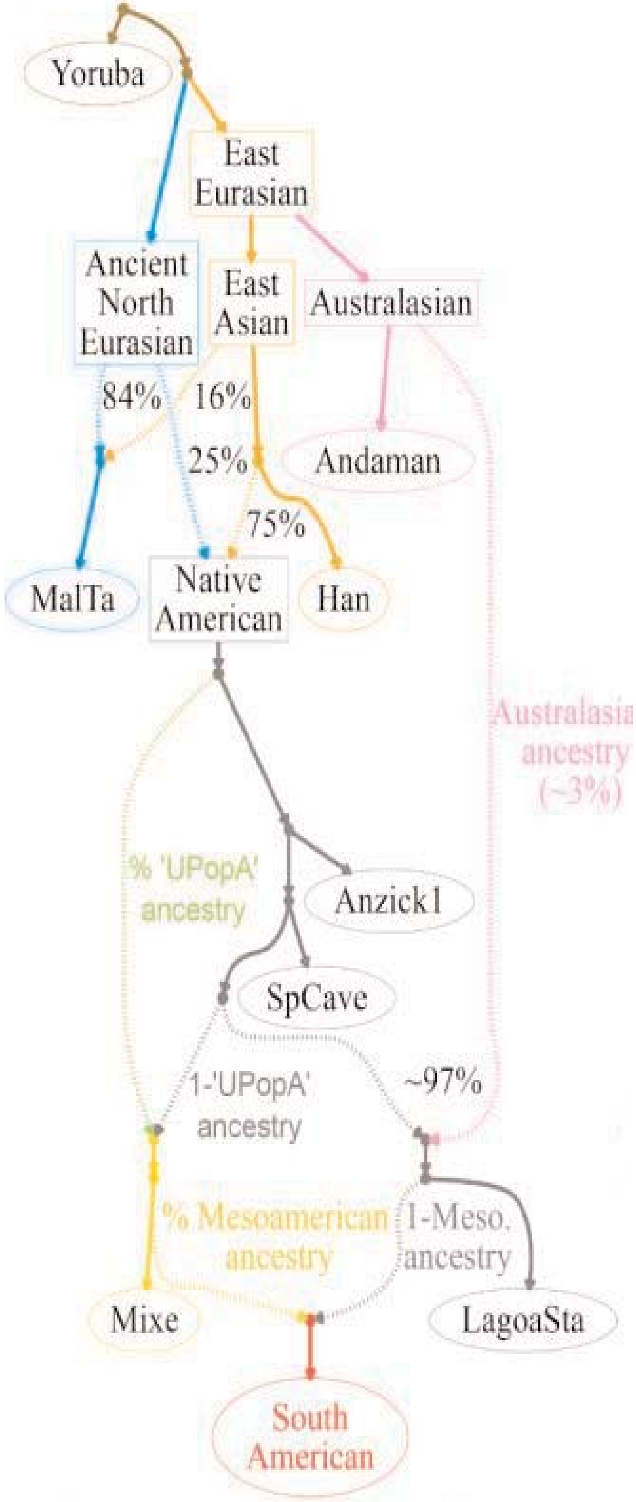
For scientists, the Sunrise Maiden became better known under the code USR1 in reference to the location of her discovery. The results of the genetic analysis show that USR1 forms a branch with all Native Americans except with some Eskimo-Aleut, Athapaskan and some North American populations with which an Asian gene flow has been previously identified. In addition, USR1 and all Native American populations are genetically equidistant from the ancient population represented by the Mal'ta boy, which is approximately 24,000 years old. All of these results suggest that USR1 and current Native Americans derive from the same ancestral population that inherited East Asian and Ancient North Eurasian (ANE) ancestry. This ancestral population would then be the genetic basis of the population that spread in America.

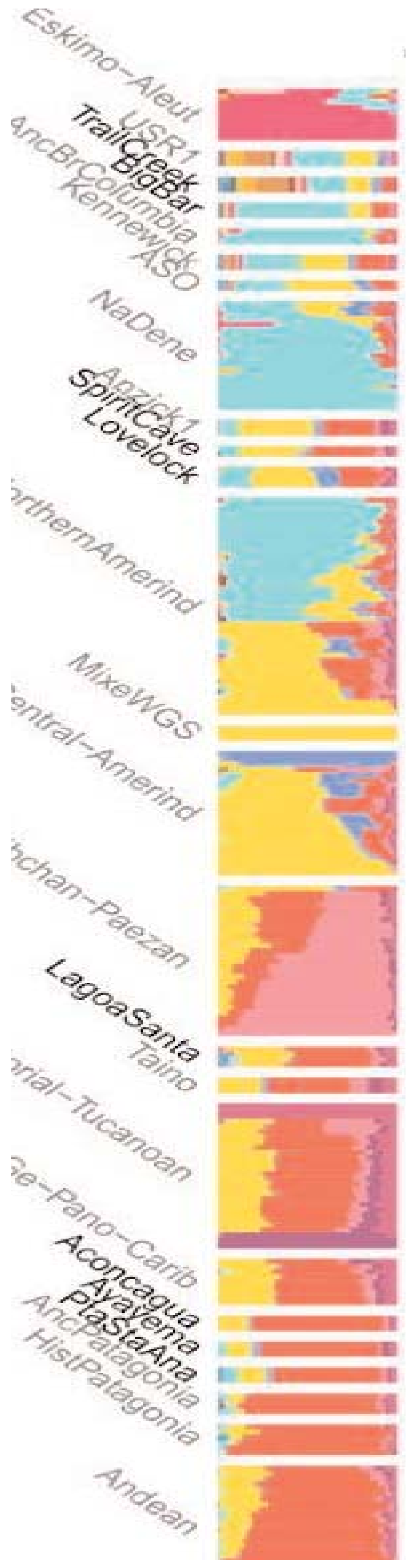
Another study showed that the Alaskan USR1 individual, representative of the Ancient Beringians, remained isolated and set apart from the Native Americans of the North and South. The individual from Creek Cave 2 (TrailCreek) studied here is found to be close to USR1 in the two previous analyzes. Thus these two ancient individuals of Alaska form a group called Ancient Beringians and confirm the hypothesis that the separation between the North and South Amerindians was made in the south of Alaska (Eastern Beringia), and not in Alaska. This implies in particular that the Athapaskans and the Inuit who inhabit Alaska today are Native Americans, and moved north after 9000 years (age of TrailCreek).

North and South Native Americans are believed to have diverged between 17,500 and 14,600 years ago. South Native Americans reached South America quickly. The Mesoamericans separated first followed by the South Americans located east and west of the Andes. However, the ancient individuals in this study from Spirit Cave in Nevada and Lagoa Santa in Brazil, some 10,000 years old, suggest complex demographic events. In the South Amerindian branch, Spirit Cave is closer to the former individual Anzick1, while Lagoa Santa is closer to the current South Amerindian groups.







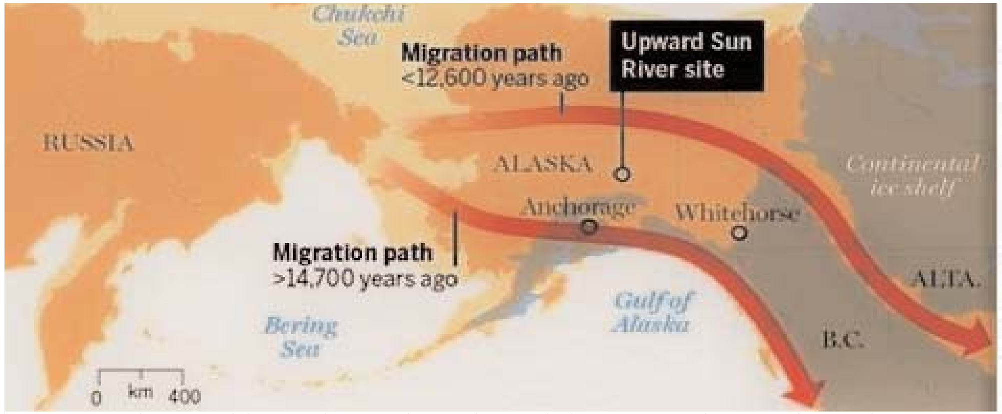


Thus the Asian populations closest to the population at the origin of the gene flow among the Athapaskans and Eskimos Inuit are respectively the Koryaks and the population linked to the former Saqqaq individual. However, the Athapaskans and Inuit Eskimos also derive from the branch at the origin of all North American Indians.

In summary, the ancestral Beringian population from which USR1 originated began to separate from the Siberian populations between 36,000 and 24,500 years ago. USR1 then separated from Native American populations approximately 20,900 years ago. The North and South American populations then separated about 15,500 years ago.

BLUE FISH CAVE

The passage of the first humans to the North American continent through the Bering Strait has just taken a leap in time, going back 10,000 years. Estimated so far at about -14,000 years according to the oldest dated archaeological sites, the human presence in the north of the continent would rather go back to -24,000 years, at the height of the last glaciation.



It was using artifacts from the Blue Fish Caves, located on the shores of the Bluefish River in northern Yukon, near the Alaskan border, that the researchers made their discovery. The oldest fragment, a horse jaw bearing the marks of a stone tool presumably used to detach its tongue, is 19,650 years at carbon 14, which gives between 23,000 and 24,000 years in years. TA calibrated (or years before the present). This finding confirms previous analyzes and demonstrates that it is the oldest known site of human occupation in Canada. It indicates that eastern Beringia was inhabited during the last ice age. This discovery also proves the hypothesis of a Beringian territorial isolation. Genetic isolation also had to correspond to geographic isolation. At the height of the Ice Age, Beringia was isolated from the rest of the North American continent by glaciers and steppes too inhospitable for human occupation in the West. It was potentially an area of refuge, and the Beringians of the Blue Fish Caves would thus be among the ancestors of the colonizers who, at the end of the Ice Age, would populate the continent as far as South America along the coasts.

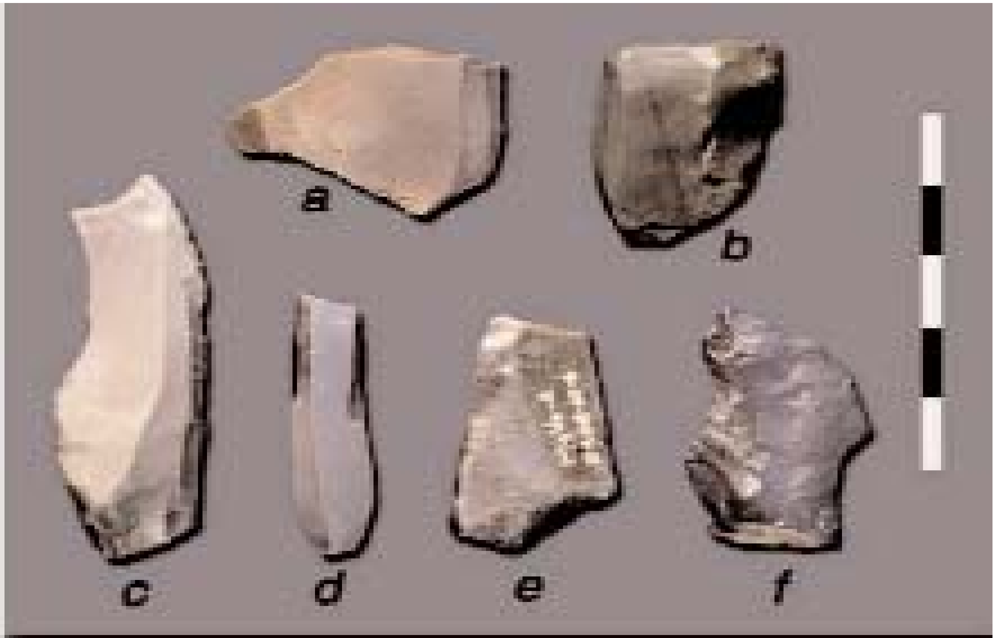


Figure 4 - Quelques unes des pièces lithiques (industrie à microlames & burins) de la grotte II: a) nucléus à microlames, b) nucléus à microlames, c) burin d'angle sur petite lame tronquée, d) burin d'angle (multiple) sur troncatures, e) burin d'angle (multiple) sur troncatures, f) burin d'angle déjeté sur encoches.

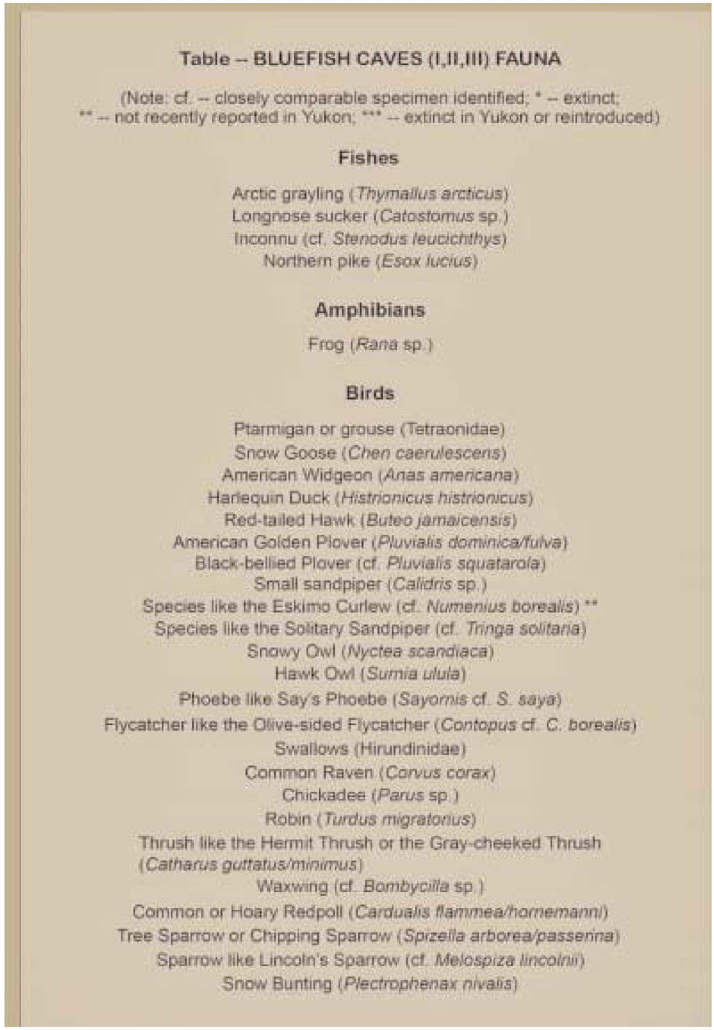


Table -- BLUEFISH CAVES (I,II,III) FAUNA

(Note: cf. -- closely comparable specimen identified; * -- extinct;
** -- not recently reported in Yukon; *** -- extinct in Yukon or reintroduced)

Fishes

Arctic grayling (*Thymallus arcticus*)
Longnose sucker (*Catostomus* sp.)
Inconnu (cf. *Stenodus leucichthys*)
Northern pike (*Esox lucius*)

Amphibians

Frog (*Rana* sp.)

Birds

Ptarmigan or grouse (Tetraonidae)
Snow Goose (*Chen caerulescens*)
American Widgeon (*Anas americana*)
Harlequin Duck (*Histrionicus histrionicus*)
Red-tailed Hawk (*Buteo jamaicensis*)
American Golden Plover (*Pluvialis dominica/fulva*)
Black-bellied Plover (cf. *Pluvialis squatarola*)
Small sandpiper (*Calidris* sp.)
Species like the Eskimo Curlew (cf. *Numenius borealis*) **
Species like the Solitary Sandpiper (cf. *Tringa solitaria*)
Snowy Owl (*Nyctea scandiaca*)
Hawk Owl (*Surnia ulula*)
Phoebe like Say's Phoebe (*Sayornis* cf. *S. saya*)
Flycatcher like the Olive-sided Flycatcher (*Contopus* cf. *C. borealis*)
Swallows (Hirundinidae)
Common Raven (*Corvus corax*)
Chickadee (*Parus* sp.)
Robin (*Turdus migratorius*)
Thrush like the Hermit Thrush or the Gray-cheeked Thrush
(*Catharus guttatus/minimus*)
Waxwing (cf. *Bombycilla* sp.)
Common or Hoary Redpoll (*Carduelis flammea/hornemanni*)
Tree Sparrow or Chipping Sparrow (*Spizella arborea/passerina*)
Sparrow like Lincoln's Sparrow (cf. *Melospiza lincolnii*)
Snow Bunting (*Plectrophenax nivalis*)

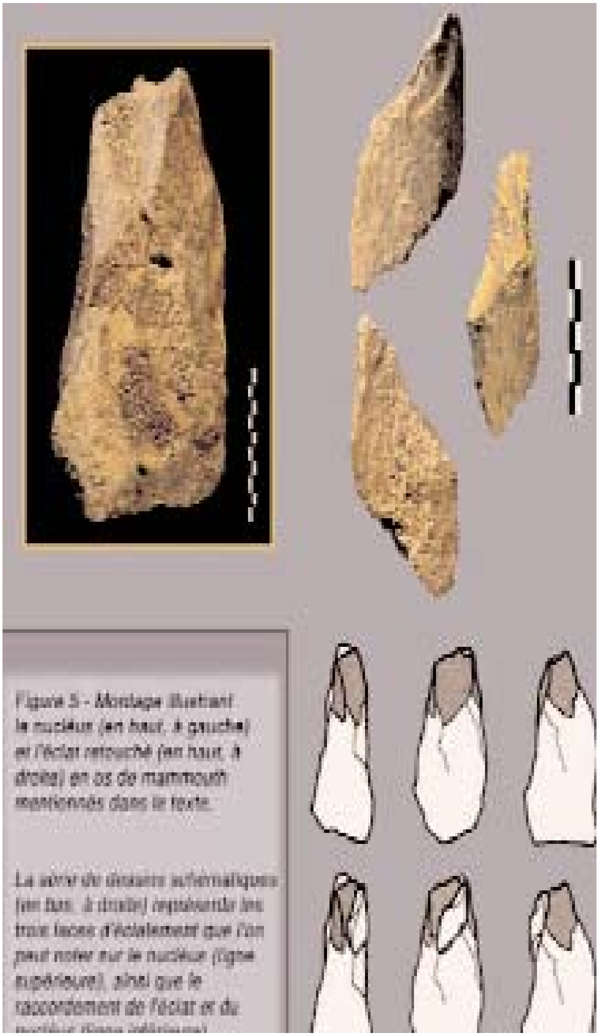


Figure 5 - Montage illustrant le nucléus (en haut, à gauche) et l'éclat retouché (en haut, à droite) en os de mammouth mentionnés dans le texte.

La série de dessins schématiques (en bas, à droite) représente les trois faces d'éclatement que l'on peut noter sur le nucléus (ligne supérieure), ainsi que le raccordement de l'éclat et du nucléus (ligne inférieure)

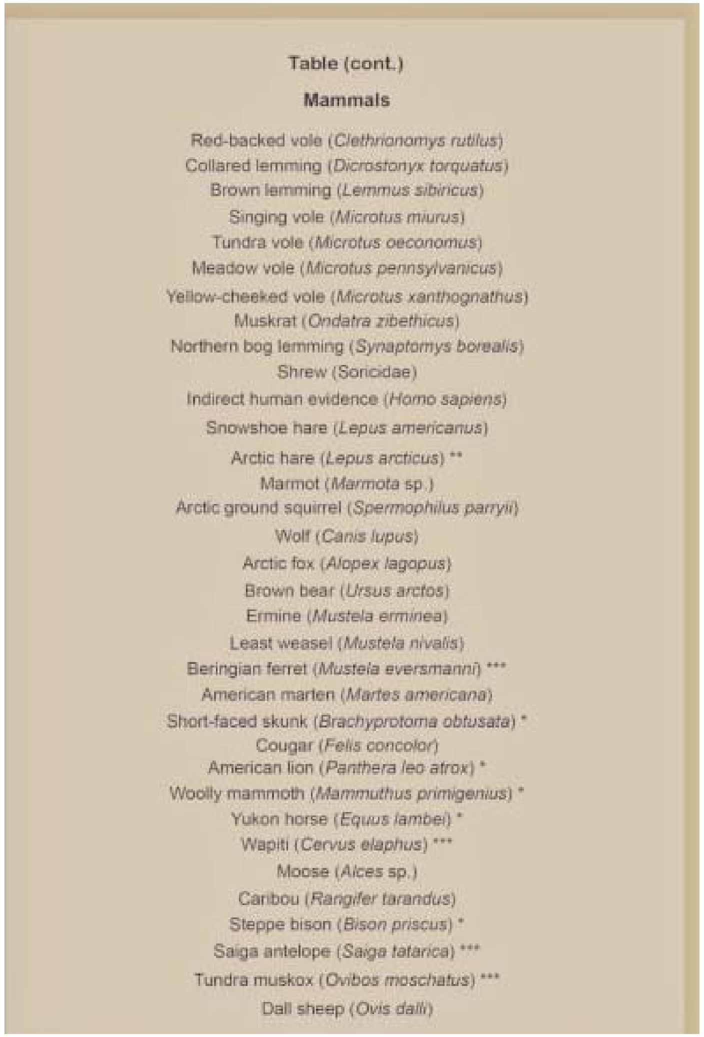


Table (cont.)

Mammals

Red-backed vole (*Clethrionomys rutilus*)
Collared lemming (*Dicrostonyx torquatus*)
Brown lemming (*Lemmus sibiricus*)
Singing vole (*Microtus miurus*)
Tundra vole (*Microtus oeconomus*)
Meadow vole (*Microtus pennsylvanicus*)
Yellow-cheeked vole (*Microtus xanthognathus*)
Muskrat (*Ondatra zibethicus*)
Northern bog lemming (*Synaptomys borealis*)
Shrew (Soricidae)
Indirect human evidence (*Homo sapiens*)
Snowshoe hare (*Lepus americanus*)
Arctic hare (*Lepus arcticus*) **
Marmot (*Marmota* sp.)
Arctic ground squirrel (*Spermophilus parryii*)
Wolf (*Canis lupus*)
Arctic fox (*Alopex lagopus*)
Brown bear (*Ursus arctos*)
Ermine (*Mustela erminea*)
Least weasel (*Mustela nivalis*)
Beringian ferret (*Mustela eversmanni*) ***
American marten (*Martes americana*)
Short-faced skunk (*Brachyprotoma obtusata*) *
Cougar (*Felis concolor*)
American lion (*Panthera leo atrox*) *
Woolly mammoth (*Mammuthus primigenius*) *
Yukon horse (*Equus lambei*) *
Wapiti (*Cervus elaphus*) ***
Moose (*Alces* sp.)
Caribou (*Rangifer tarandus*)
Steppe bison (*Bison priscus*) *
Saiga antelope (*Saiga tatarica*) ***
Tundra muskox (*Ovibos moschatus*) ***
Dall sheep (*Ovis dalli*)

The caves have, all three, provided thousands of bone remains whose excellent conservation results from very favorable sedimentological and taphonomic conditions. This fauna is made up of large and small mammals, including a large number of microtins, as well as birds and fish (Table 1). It can be divided into two series originating from loess and gravel humus respectively.

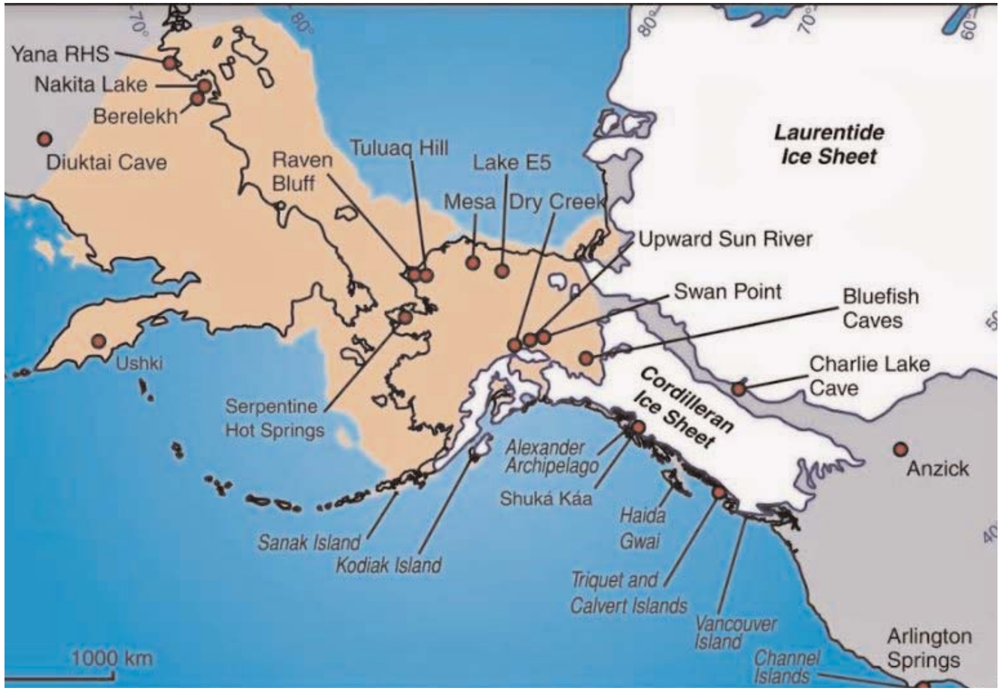
The loess fauna is very rich in quantity, complexity and diversity. In this sense, it is consistent with what Guthrie (1982, 1985) called the Upper Pleistocene Beringian "mammoth fauna". In Bluefish beds, the latter is mainly composed, in terms of megafauna, of forms such as horse (Equus lambei), caribou or reindeer (Rangifer tarandus), mouflon (Ovis dalli), bison (Bison priscus), elk or moose (cf. Alces alces), elk or deer (Cervus elaphus) and mammoth (Mammuthus primigenius); the cave also contains the Saiga antelope

(Saiga tatarica), the muskox (Ovibosmoschatus), the bear (Ursus), the wolf (Canis lupus) and the lion (Panthera) but also specimens of caribou and bighorn sheep. America, discreet representatives of a regional Holocene megafauna that also includes moose, bears and wolves.

The faunal remains of the Bluefish, form additional signs of human presence. These traces consist of a variety of nicks, incisions, scuffs, hatchings and streaks that result from intentional butchering and decarnizing activities of animals.
These determinations suggest that cultural activities related to the exploitation of the bluefish fauna took place, sporadically, between about 25,000 BP and 10,000 BP.

Shuká K áa "- The man in front of us

Recent studies of the entire genome of ancient and modern indigenous peoples of the Americas have shed light on the demographic processes involved in early settlements. The Pacific Northwest is proving to be a fascinating point of interest for these studies due to its association with coastal migration patterns and ancestral genetic patterns that are difficult to reconcile with modern DNA alone.

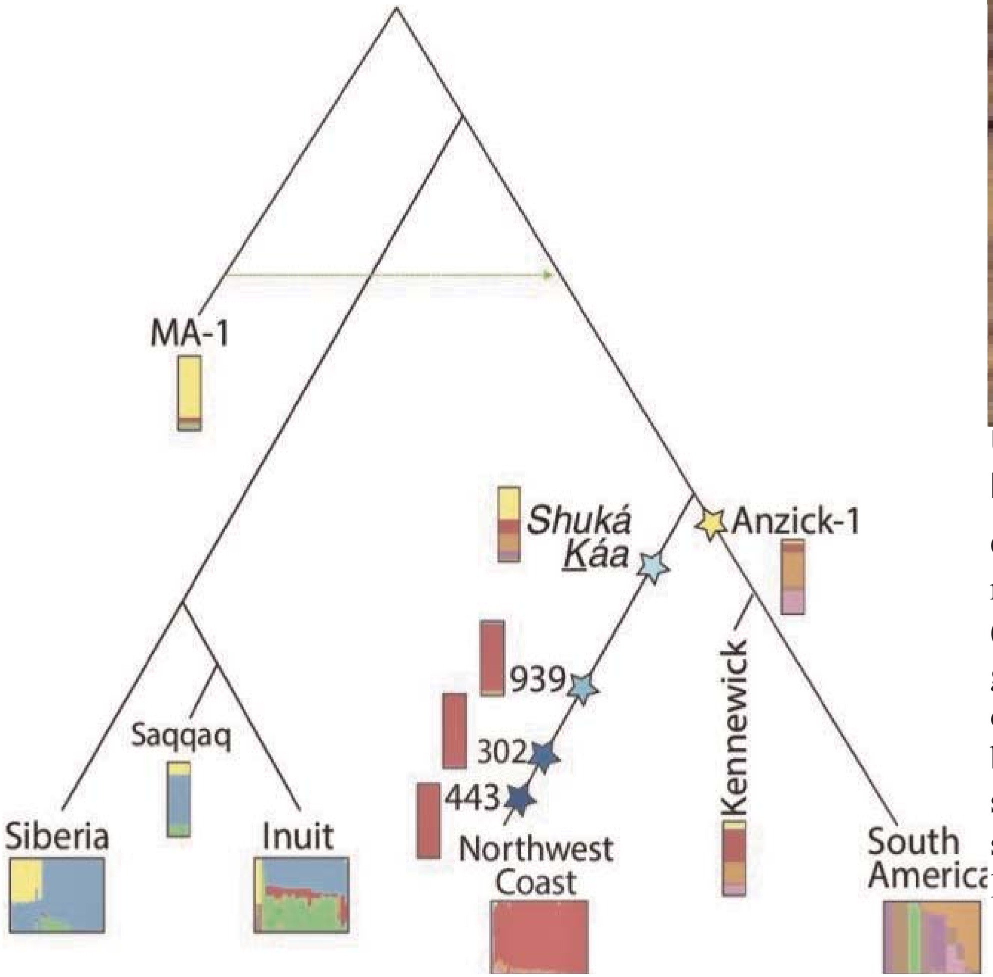


Here we report the genome-wide sequence of an ancient individual known as "Shuká K áa" ("The Man Before Us") recovered from the On Your Knees Cave (OYKC) in the southeast. . of Alaska (archaeological site 49-PET-408). The human remains date from around 10,300 years before the present (BP) and isotopes from his teeth have shown that he ate a marine diet. We also analyze the low coverage genomes of three more recent individuals from the neighboring coast of British Columbia dating from around 6075 to 1750 years ago. From the resulting time series of genetic data, we show that the Pacific Northwest has genetic continuity for at least the past 10,300 years.

We also infer that the population structure existed during the late Pleistocene in North America with Shuká K áa on a different ancestral lineage compared to other North American individuals (i.e. Anzick-1 and Kennewick Man) from the late Pleistocene or early Holocene. Despite regional changes in mitochondrial DNA haplogroups, we conclude from individuals sampled over time that the inhabitants of the north of the northwest coast belong to an early genetic lineage that may have originated from a coastal migration from the northwest. North West. Upper Pleistocene in the Americas. Statement of significance because we present here genome-wide sequences of individuals from the northwest coast of the country spanning a period of approximately 10,000 years and show that continental demographic models do not necessarily apply regionally. In comparison with existing paleogenomic data, we demonstrate that geographically related population samples from the Northwest Coast exhibit early ancestral lineage and find that population structure existed among native groups in North America as early as the late 1980s. 1900.

The Native Americans of the Pacific Northwest have always claimed to have deep roots in the region. Now a former sailor may be able to support this claim. Scientists who sequenced DNA from 10,300-year-old human remains from On Your Knees Cave in Alaska have found it to be closely related to three ancient skeletons found along the coast of British Columbia in Canada. These three ancient peoples were in turn closely related to the Tsimshian, Tlingit, Nisga'a and Haida tribes living in the region today. The new discovery reveals direct parentage with these tribes and shows, for the first time from ancient DNA, that at least two different groups of people lived in North America more than 10,000 years ago.

The team of geneticists requested permission from the Tlingit and Haida tribes of Alaska, as well as tribes further south of British Columbia, to extract nuclear DNA from Shuka Káa and three other ancient skeletons. They were allowed to remove the last remaining tissue from the molars and teeth of Shuka K áa from a 6,075-year-old skeleton on Lucy Island in British Columbia (just 300 kilometers from On Your Knees Cave), a 2,500-year-old skeleton from Prince Rupert Harbor in British Columbia and another 1,750-year-old skeleton from the same area. The project ended on a note of goodwill between scientists and Native Americans, with a skeletal reburial ceremony in 2008.

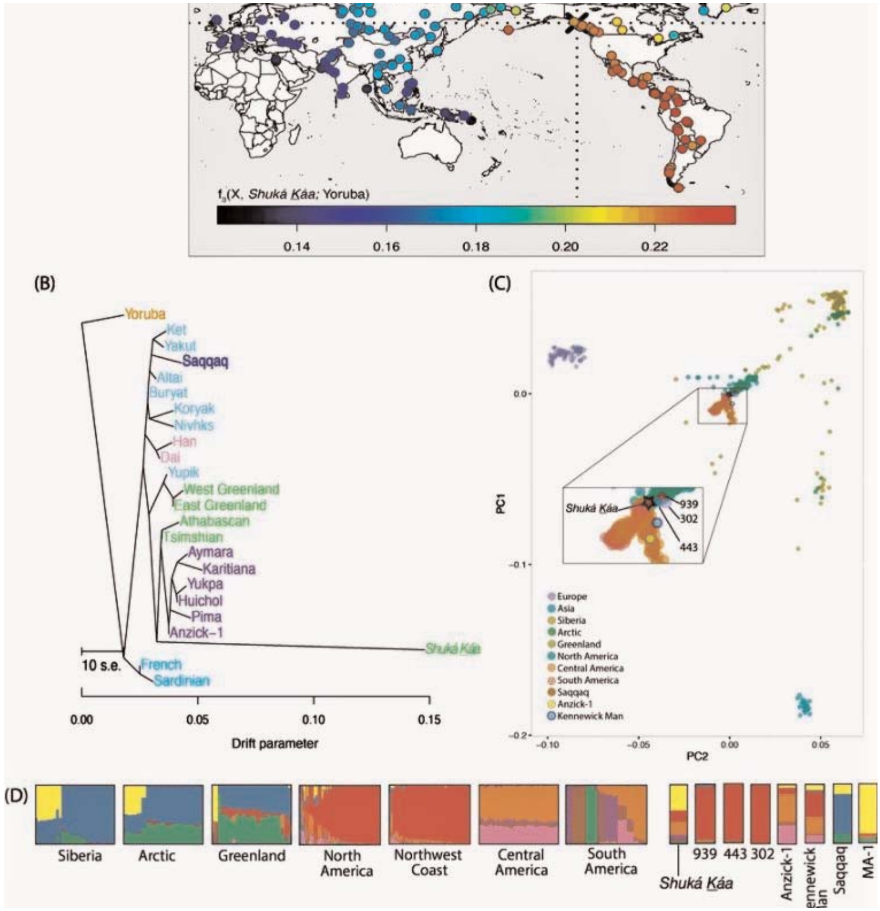


Un moulage de la mandibule humaine trouvée dans On your knees cave. (ceramic print)

Genetic affinity of Shuká Káa and other prehistoric humans of the northwest coast with global and regional indigenous populations. - (A) Shuká Káa shows a greater genetic affinity with Amerindian groups than other world populations. The heat map represents the outgroup ƒ 3 statistics estimating the amount of genetic drift shared between Shuká Káa and each of the 156 contemporary populations since their divergence from the African Yoruba population. (B) Data suggests that there were several genetic lines in the Americas at least 10,300 years ago.

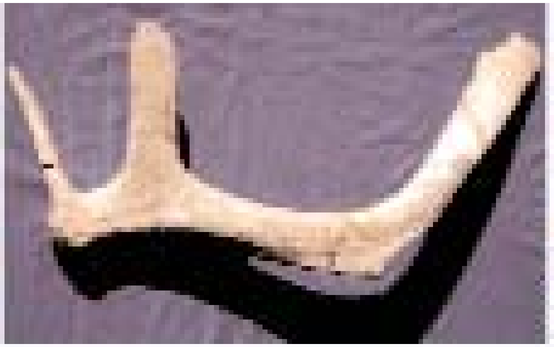
Shuka Káa, on the other hand, seems more closely related to groups living in South and Central America today, such as the Karitiana, Surui, and Ticuna of the Brazilian Amazon. But the signal is not statistically strong, and it may just be a sign that the tribes all share DNA from the same ancient ancestors in Asia or Beringia where humans lived before entering the Americas. Connecting the dots between all ancient individuals, Malhi's team proposes that Shuká Káa is also ancestral to all of these groups, including the Tsimshian and related tribes in the Pacific Northwest.

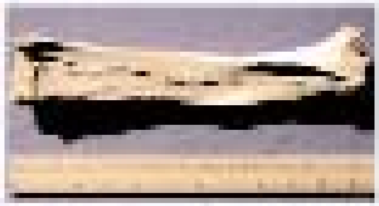
In another interesting twist, the team discovered that the group of skeletons was not closely related to two other famous Paleoindians: the 8,545-year-old Kennewick man unearthed from the banks of the Columbia River in Washington state. , and that of 12,600 year old child Anzick from Montana. This suggests that there were at least two groups of nomads who came to North America via the Bering Strait land bridge before 10,000 years ago, says Malhi. Although multiple migrations have long been documented, this is the first ancient DNA evidence of different groups arriving in North America at such an early date.



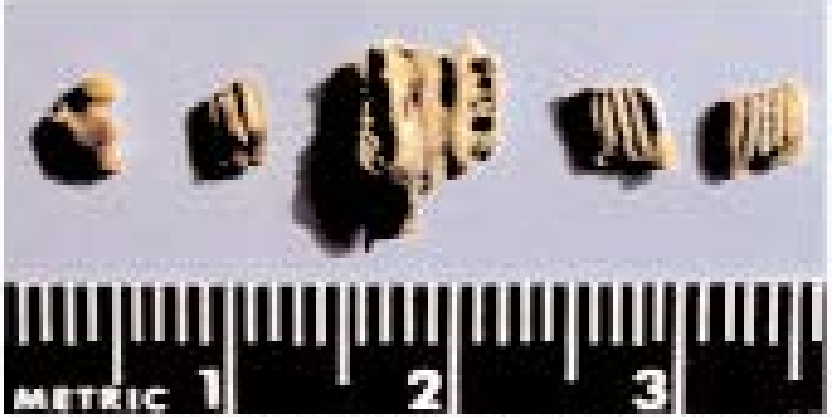
Other researchers say that the connection between the three most recent skeletons and the tribes of the Pacific Northwest is clear. It could also be that Shuká Káa was alive before the lineage formation that led to present-day Northwestern groups. Whether the ancient sailor was a direct ancestor of today's tribes or not, the discovery of the link from recent skeletons matches oral Tlingit and Tsimshian traditions which suggest that the Tsimshians migrated west along the Naas River in British Columbia to the coast, before expanding north and south, says Rosita Worl, president of the Sealaska Heritage Institute in Juneau and a member of the Tlingit tribe. Archaeologist Timothy Heaton of the University of South Dakota at Vermillion, whose team discovered Shuká K áa, adds that the genetic links match the engraving the Tlingit put on the gravestone when they re-buried Shuká K áa: "We have lived in Southeast Alaska since time immemorial. Shuka K áa is a testament to our ancient occupation of this land."

The descendants of some of these lines still live in the same region today, and a few are co-authors of the new study. Their participation is the result of a long-term collaboration between scientists and several indigenous groups who are embracing genomic studies as a way to learn from their ancestors, said Worl, who is half Tlingit, Ch'aak '(Eagle) . Shangukeidi. - (Thunderbird) Kawdliyaayi Hit (House Below) Clan in Klukwan, Alaska. "" We supported Shuka Kaa's DNA testing because we believed science would ultimately agree with what our oral traditions have always said - that we have lived in Southeast Alaska since time immemorial: "Science corroborates our oral histories."

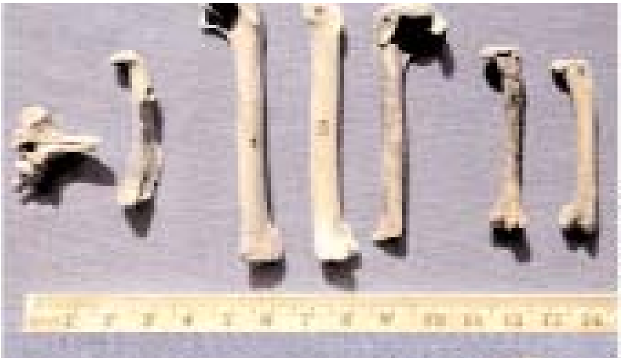




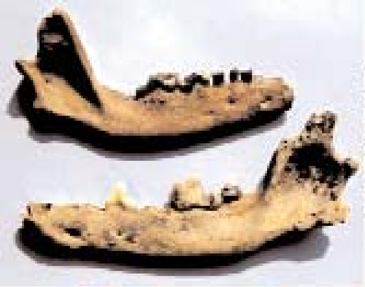
The caribou antler at left was found i Your Knees Cave. The caribou radius was found in a high dome in El Capita by caver Pete Smith.



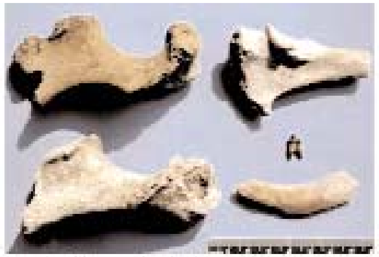
Hoary marmot (left) and heather vole (above) are the most abundant s from On Your Knees Cave. They all date to before the Last Glacial Ma The most common elements are isolated teeth. Long-tailed voles and b lemmings are other common rodents.



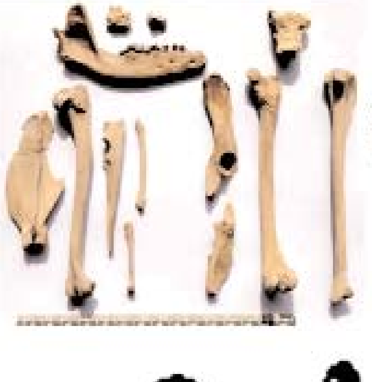
Some of the puffin bones at left are larger than the modern species. Many bird bones have distinct bite marks that match arctic fox (above).



Arctic fox (upper jaw and skeleton at right) was an important bone accumulator at On Your Knees Cave. Red fox (lower jaw, El Capitan Cave) was also present.



Ringed seal bones and teeth (above and small molar at right), all dating to the Last Glacial Maximum, were brought to On Your Knees Cave by foxes or bears. Note the bite mark that matches a bear canine on the left side of the upper humerus. Steller's sea lion (canine up at right) and harbor seal are also present, and they date to before, during, and after the glacial maximum (and are still present around Prince of Wales Island today).



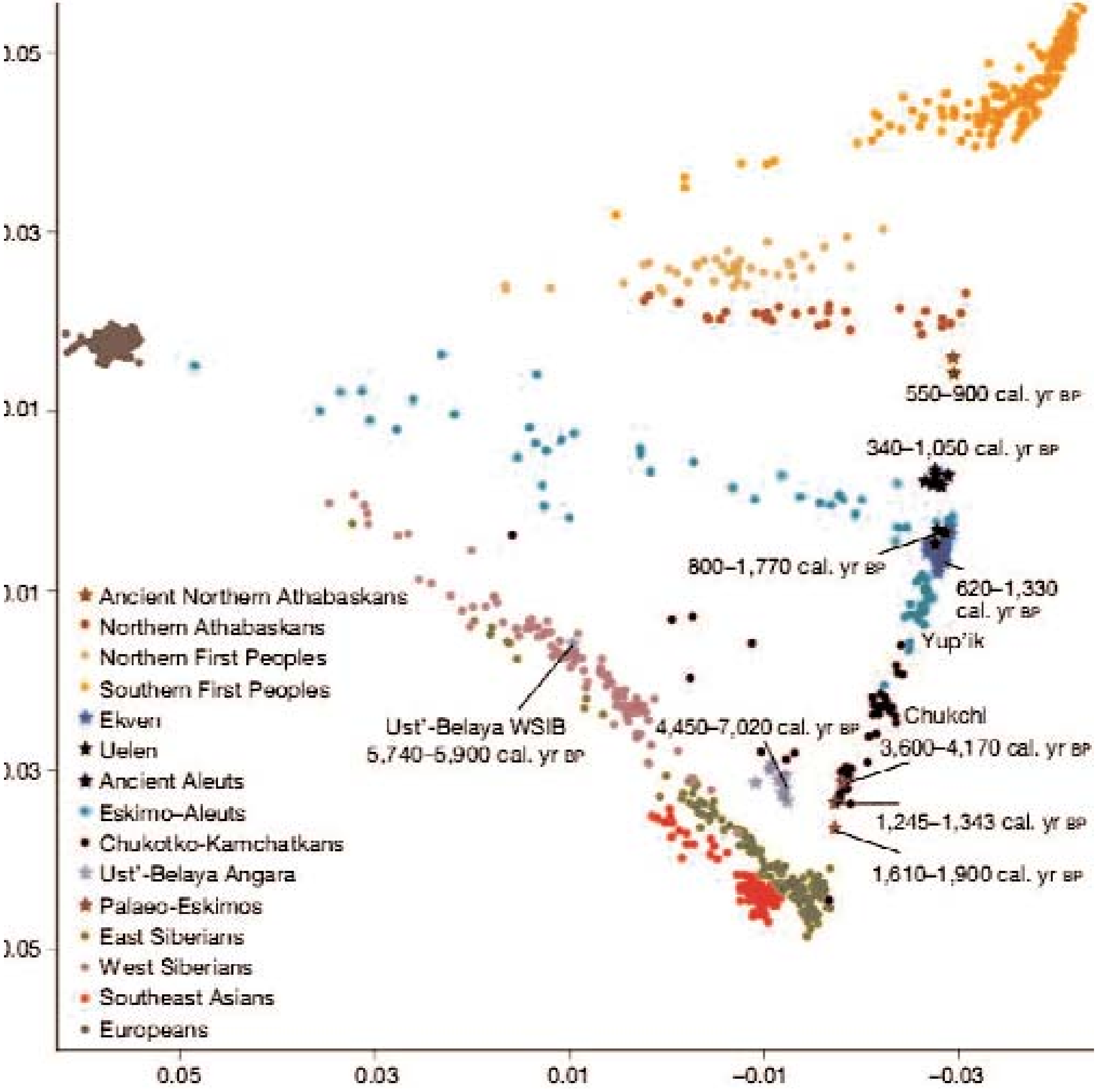
THE PALEO-ESKIMO AND THE TCHOUKOTKA AND NORTH AMERICAN GENETIC DESCENT .

Today's Native Americans descend from at least four ancient migrations from Asia. The first Americans entered America about 14,500 years ago. A second migration genetically linked to an Australasian population, called population Y, has contributed to certain groups in the Amazon. A Paleo-Eskimo migration spread across the arctic zone of America around 5,000 years ago. Finally, a neo-Eskimo ancestry spread with the Thule culture in the arctic region also about 800 years ago. This latter ancestry is present today in the Yupik and Inuit groups.

The extent of Paleo-Eskimo ancestry in ancient and present-day populations is poorly understood. While archeology shows the presence of Paleo-Eskimo cultures between 5,000 and 700 years old, it is not known whether these contributed genetically to neighboring groups like the Alaskan Tlingit and Athabaskans who speak a Na-Dene language. It is also not known whether there were genetic mixtures between paleo and neo-Eskimos.

Pavel Flegontov and his colleagues sequenced the genome of 48 ancient individuals from the arctic region of America and Siberia. There are thus 11 ancient Aleutians dated between 2050 and 280 years, three ancient North Athabascans dated between 900 and 550 years, 21 ancient individuals from the archaeological sites of Ekven and Ouelen in Tchoukotka dated between 1770 and 620 years, a Paleo-Eskimo of Middle Dorset culture dated between 1900 and 1610 years ago and 12 individuals from the archaeological site of Ust'-Belaya near Lake Baikal dated between 7020 and 610 years ago.

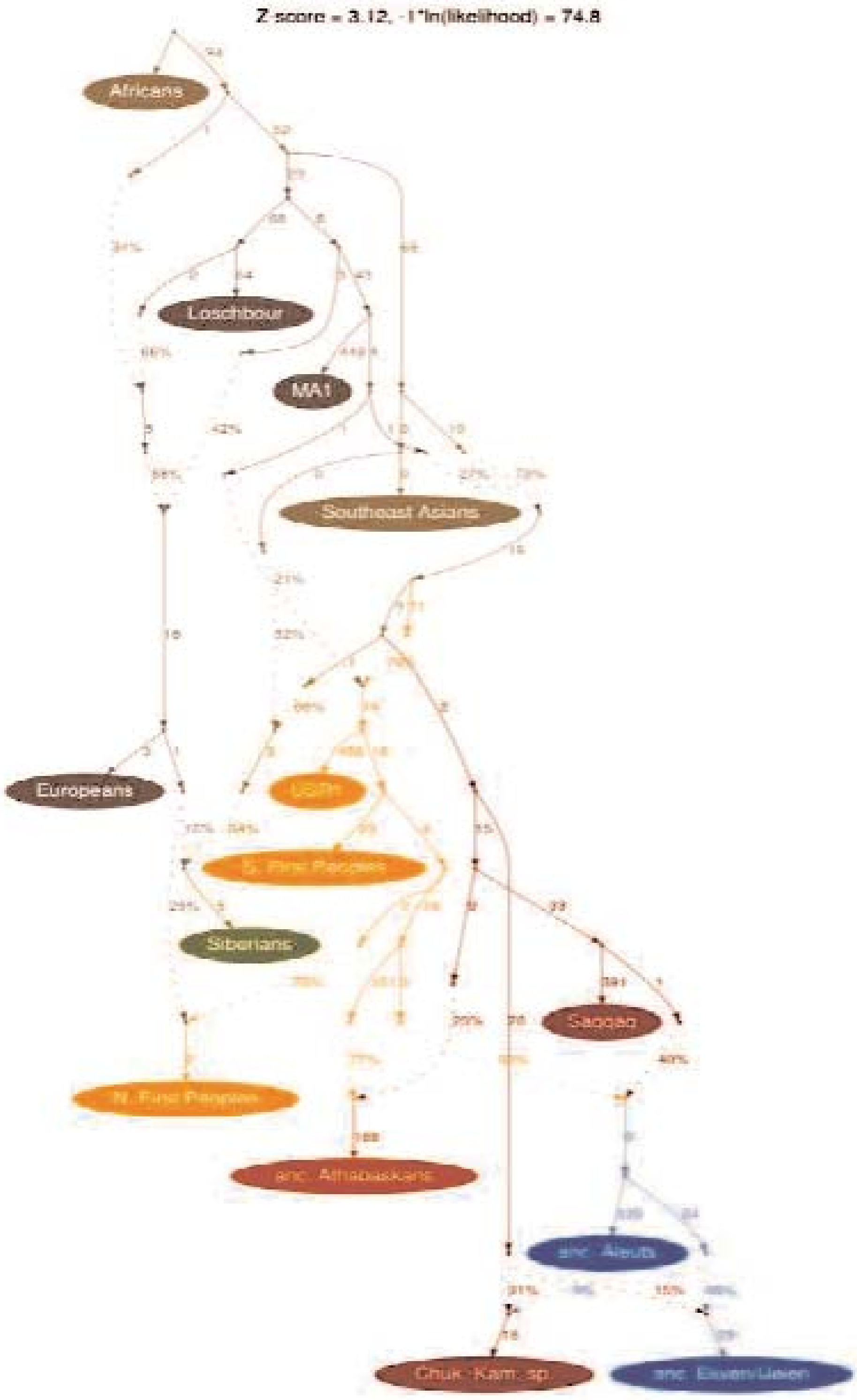
The authors carried out a Principal Component Analysis: (Graph opposite)



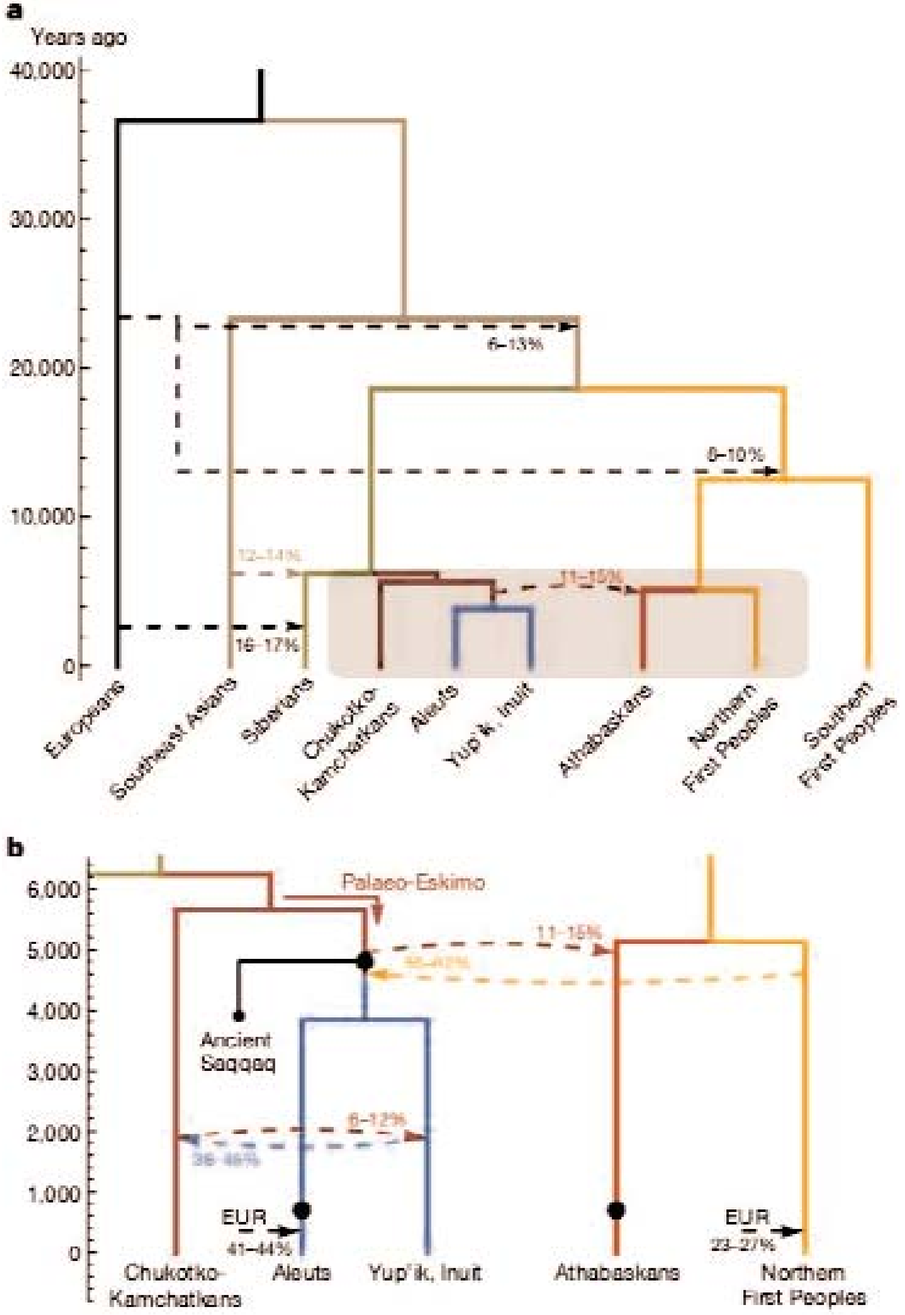
The ancient individuals lie on a gradient that stretches between South Americans (in orange) at the top and East Siberians (Koryaks and Itelmènes) (in green) at the bottom. Among the ancient individuals in this study the paleo-eskimos (brown stars) are at the bottom and the northern Athabascans (light brown stars) at the top. The ancient Aleut (blue stars) are located under the Athabascans, the Ekven (light blue stars) and Uelen (dark gray stars) under the Aleutians. On the other hand the individuals of Ust'-Belaya (gray stars) are located outside this gradient, with the Siberians of the west or next to the Siberians of the east.

Analysis of rare variants in Siberian and American populations confirm these results. It also shows that genetic mixtures with neighboring northern Amerindian populations reduced the proportion of PPE ancestry in the Na-Dene groups over time. This analysis also shows that current Yupiks and Inuit share more alleles with Siberian populations speaking a Chukchi-Kamchadale language.

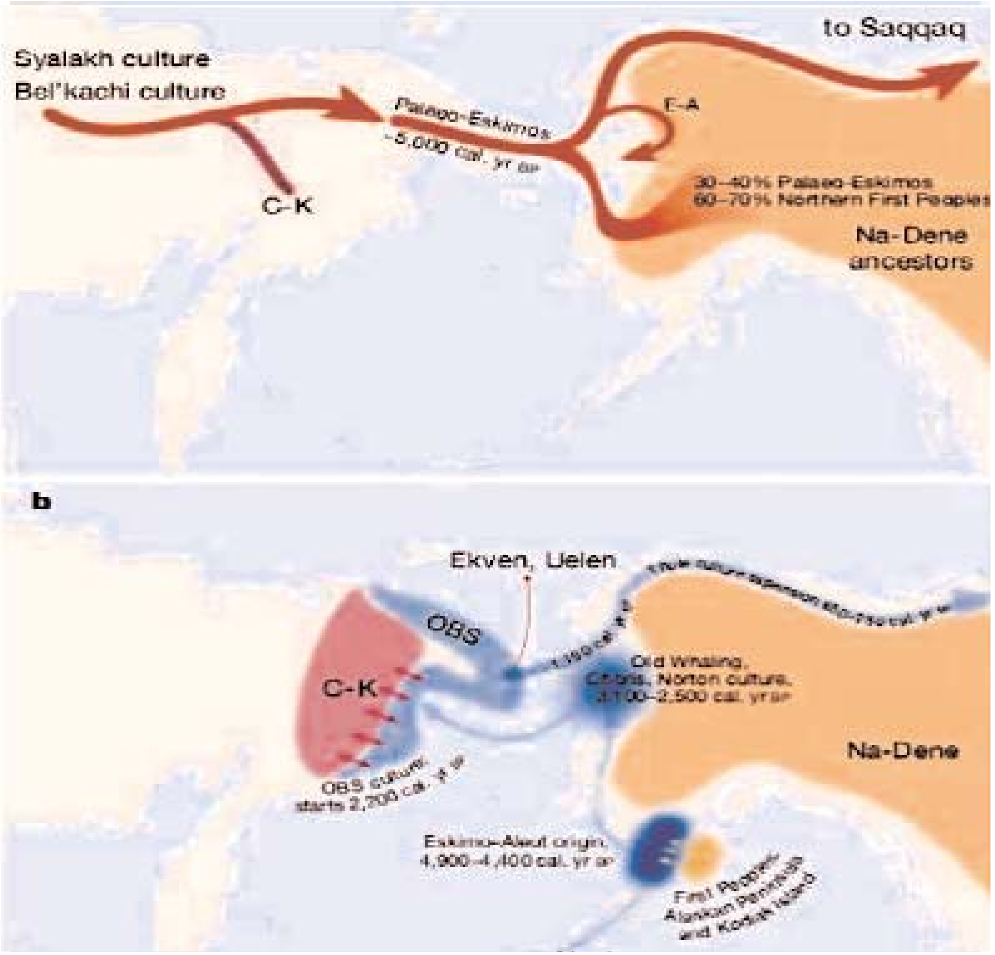
In the figure opposite, the former Atabhascans receive 23% of PPE ancestry, the former Aleutians receive 40% of PPE ancestry and 60% of North Amerindian ancestry, the elders Ekven and Uelen receive 85% of ancient Aleut ancestry and 15% of Siberian ancestry and the Chukchi-Kamchadal populations receive 91% of PPE ancestry and 9% of Old Aleut ancestry. An important point is the bidirectional gene flow between the Chukchi-Kamchadal populations and the Neo-Eskimos, which does not affect the ancient Aleutians who can be grouped between paleo and neo-Aleut, but who form a single homogeneous genetic population in contradiction with the hypothesis which suggests the arrival of a new population in the Aleutian Islands about 1000 years ago.



The demographic model was then refined with Rarecoal software. The result suggests that the Chukchi-Kamchadale and Eskimo-Aleut lineages diverged between 6,200 and 4,900 years ago when PPE ancestry spread to the ancestors of the Athabascans:
The position of the ancient Saqqaq is located just after this gene flow, but just before the gene flow from the ancestors of the North Amerindians to the ancestors of the Eskimo-Aleut (55 to 62%). Finally, the bidirectional gene flow between the Chouktches-Kamtchadal populations and the Eskimos is estimated between 2300 and 1700 years (from 6 to 12% towards the Eskimos and from 36 to 45% towards the Tchouktches-Kamtchadales). The model also proposes a significant contribution (between 41 and 44%) of Europeans towards the current Aleutians, probably during the colonial period, and towards the North Amerindians (between 23 and 27%).



Bidirectional gene flow between Chukchi-Kamchadal populations and the Eskimos took place in Siberia following a return migration to Siberia, before the eskimos spread to the arctic zone of North America with the Thule culture:


to Saqqaq
Syalakh culture
Bel'kachi culture
Palaeo-Eskimos
~5,000 cal. yr BP
C-K
E-A
30–40% Palaeo-Eskimos
60–70% Northern First Peoples
Na-Dene ancestors
b
Ekven, Uelen
Thule culture expansion 800–750 cal. yr BP
OBS
C-K
Old Whaling, Choris, Norton culture, 3,100–2,500 cal. yr BP
OBS culture starts 2,200 cal. yr BP
Na-Dene
Eskimo–Aleut origin 4,900–4,400 cal. yr BP
First Peoples Alaskan Peninsula and Kodiak Island

THE GENETIC PREHISTORY OF GREAT NORTH AMERICAN

Maanasa Raghavan has just published a paper on the genetics of ancient populations of the American Arctic entitled: The genetic prehistory of the New World Arctic.

The first humans to populate the Arctic region of the American continent came from the Bering Strait about 6,000 years ago. The various archaeological cultures which have succeeded one another in the region are divided into two groups: the Paleo-Eskimos (in blue opposite) and the Neo-Eskimos (in red opposite).

The first Paleo-Eskimos arrived over 5,000 years ago and created the Denbigh, Pre-Dorset, Independence I, and Saqqaq cultures. They lived until around 800 BC. JC in tents. They hunted caribou, muskox and seals. They were followed by the Dorset culture between 800 BC. JC and 1300 AD. JC. The Paleo-Eskimos suddenly disappeared with the emergence of the Neo-Eskimos Thule culture. The latter seems to have its origins in the old Siberian culture of the Bering Sea 2200 years ago which gave rise to the Birnirk and Punuk cultures around the Bering Strait before spreading rapidly eastwards from 1300 AD . JC. They came with dog sleds and hide boats, and were hunting whales. They then gave birth to contemporary Inuit cultures. In this study the authors tested 169 samples belonging to individuals from these ancient cultures:

154 samples were tested for their mitochondrial DNA and 26 samples were tested across their entire genome. In addition, several contemporary individuals have been sequenced for comparison: 2 Amerindians from the Athapaskan family, 2 Inuit from Greenland, 1 individual from the Aleutian Islands in southwestern Alaska, and 2 Siberian Nivkhs.

Fig. 1. Chronology of the prehistoric cultures in the New World Arctic and northeast Siberia. This framework is based on a combination of screened radiocarbon dates on associated terrestrial materials, typological studies, and contexts [e.g., (6, 9, 37, 40, 83–85)]. Fading colors symbolize uncertainties concerning the beginnings or ends of the archaeological cultures, owing to plateaus or wiggles in the radiocarbon calibration curve or lack of data. Defined archaeological phases within a culture are separated by a white line. Dark reddish-brown toward the top of the figure indicates historical times. Cultural contexts from which samples included in this study arise are highlighted in yellow.

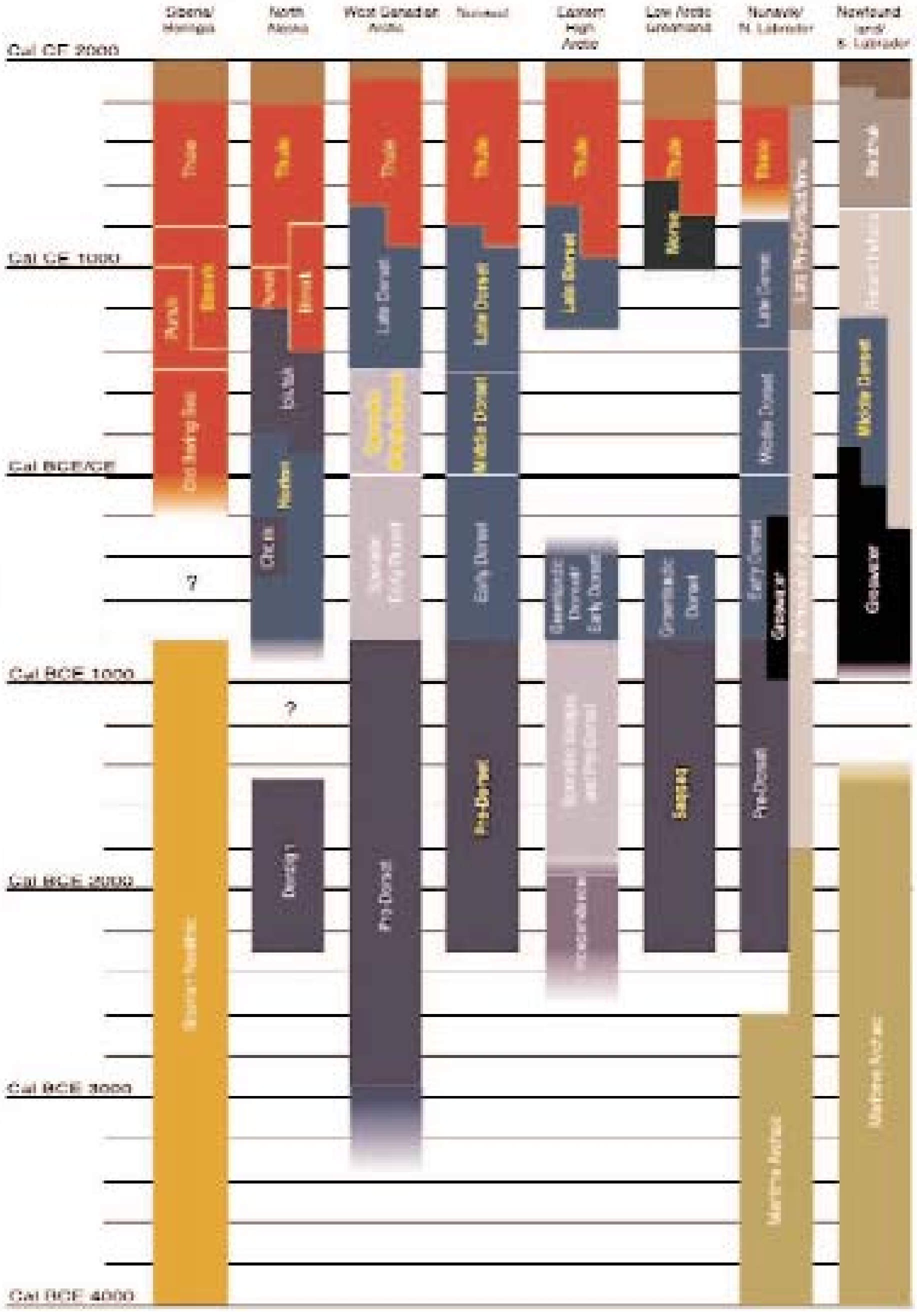
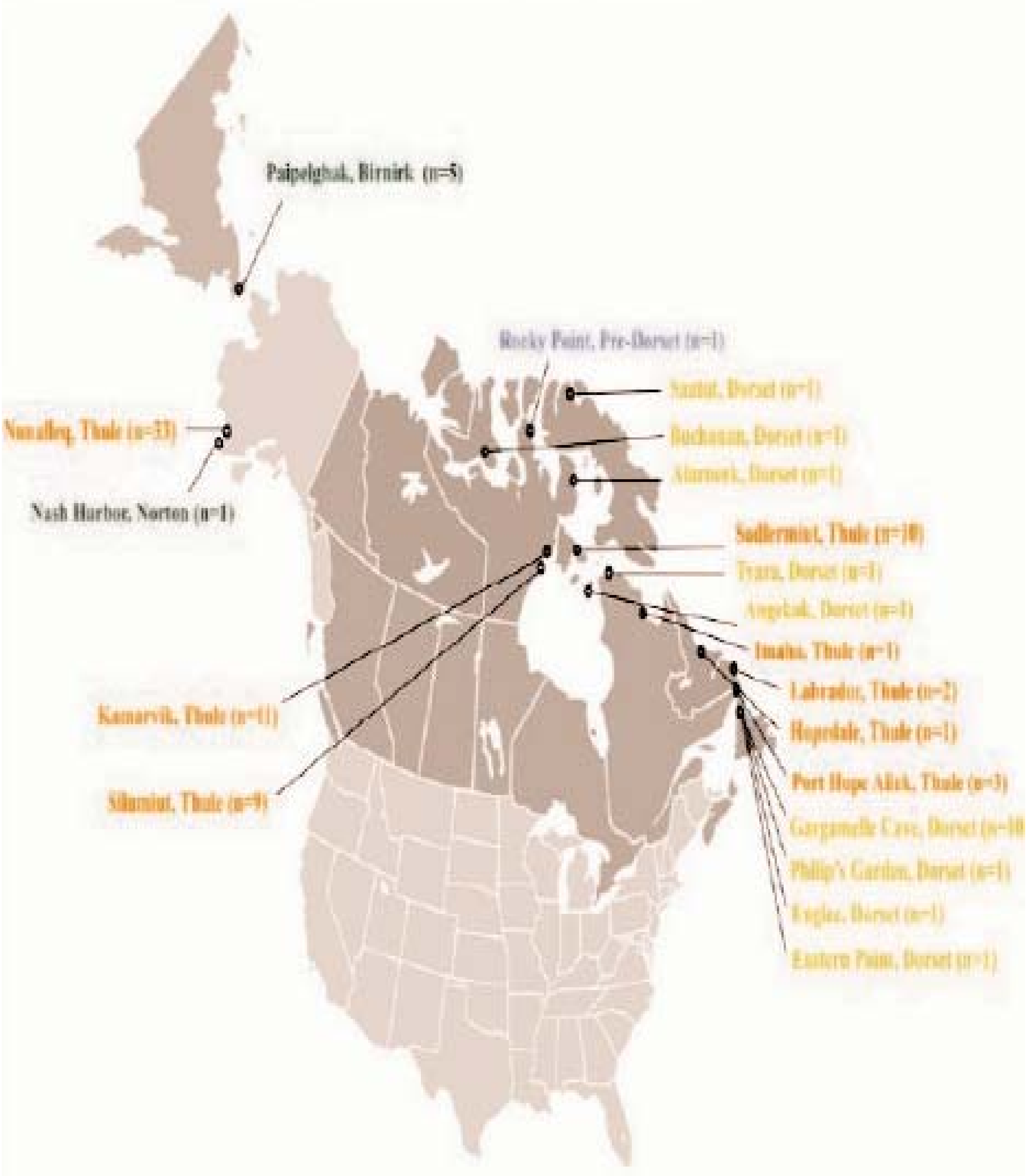
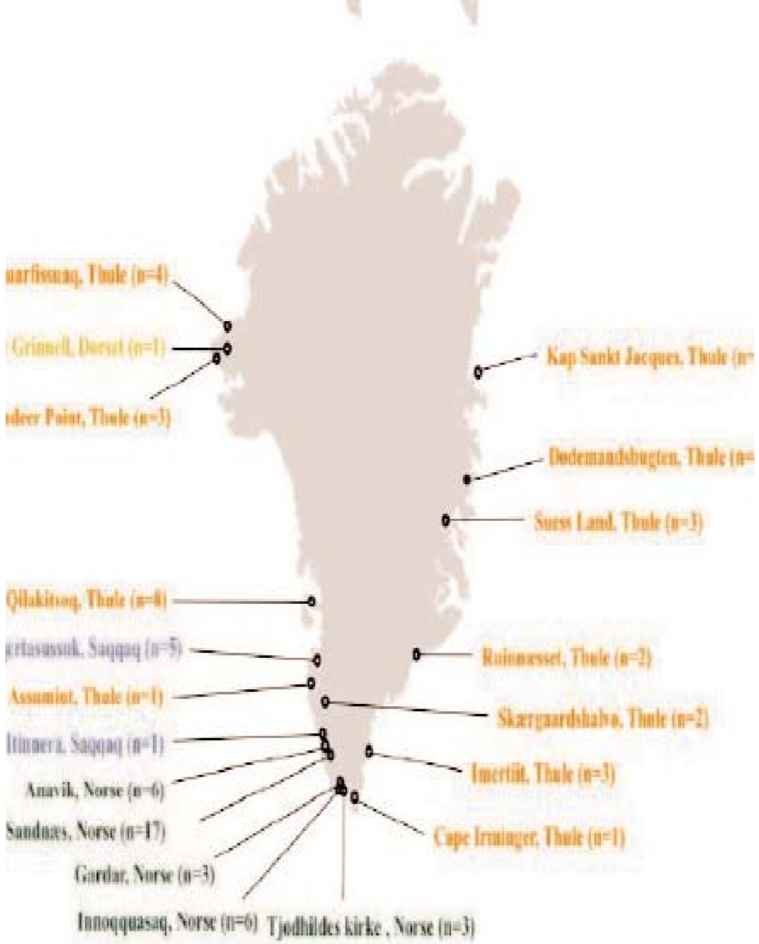
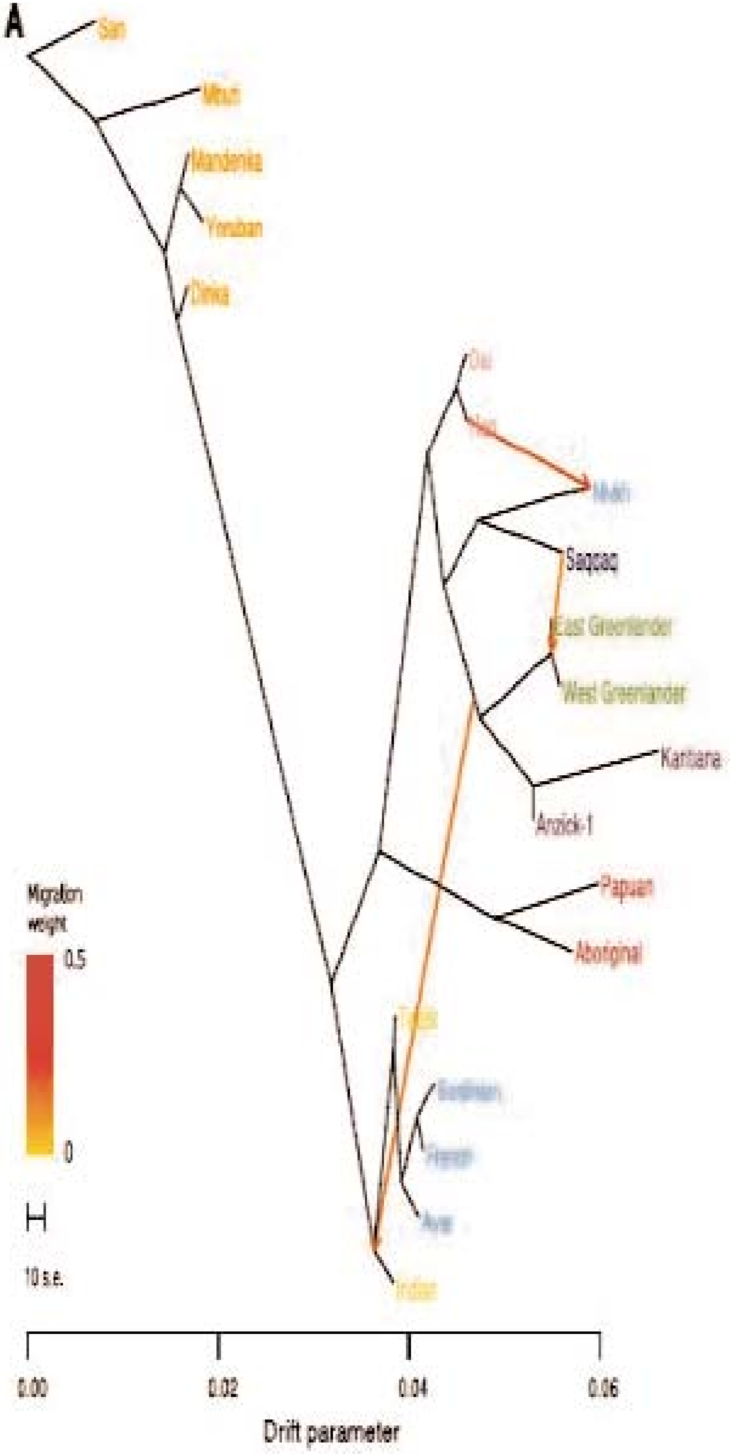


Fig. S1. Maps of North America/farcast Siberia and Greenland showing site locations for 169 samples nalyzed in this study. Early Paleo-Eskimos (Pre-Dorset/Saqqaq) are shown in blue, Late Paleo-Eskimos Dorset) in yellow, Neo-Eskimos (Thule) in orange, and other Arctic cultures (Norse, Norton and Birnirk) n green. Number of samples from each site is indicated within brackets.





All the Paleo-Eskimos belong to the mitochondrial haplogroup D2a. This haplogroup is also found in the Aleutian Islands and among the Siberian Eskimos.The contemporary populations closest genetically to these Paleo-Eskimos are the Inuit of Greenland, the inhabitants of the Aleutian Islands and the Siberians of the far east. The Athapaskans regroup with the Karitiana and the ancient sample of the Clovis culture. They are not close to the Paleo-Eskimos indicating that the Amerindian and Paleo-Eskimos migrations were indeed 2 distinct migrations. The Neo-Eskimos Thule of Greenland and Canada unite with the contemporary Inuit of Greenland.



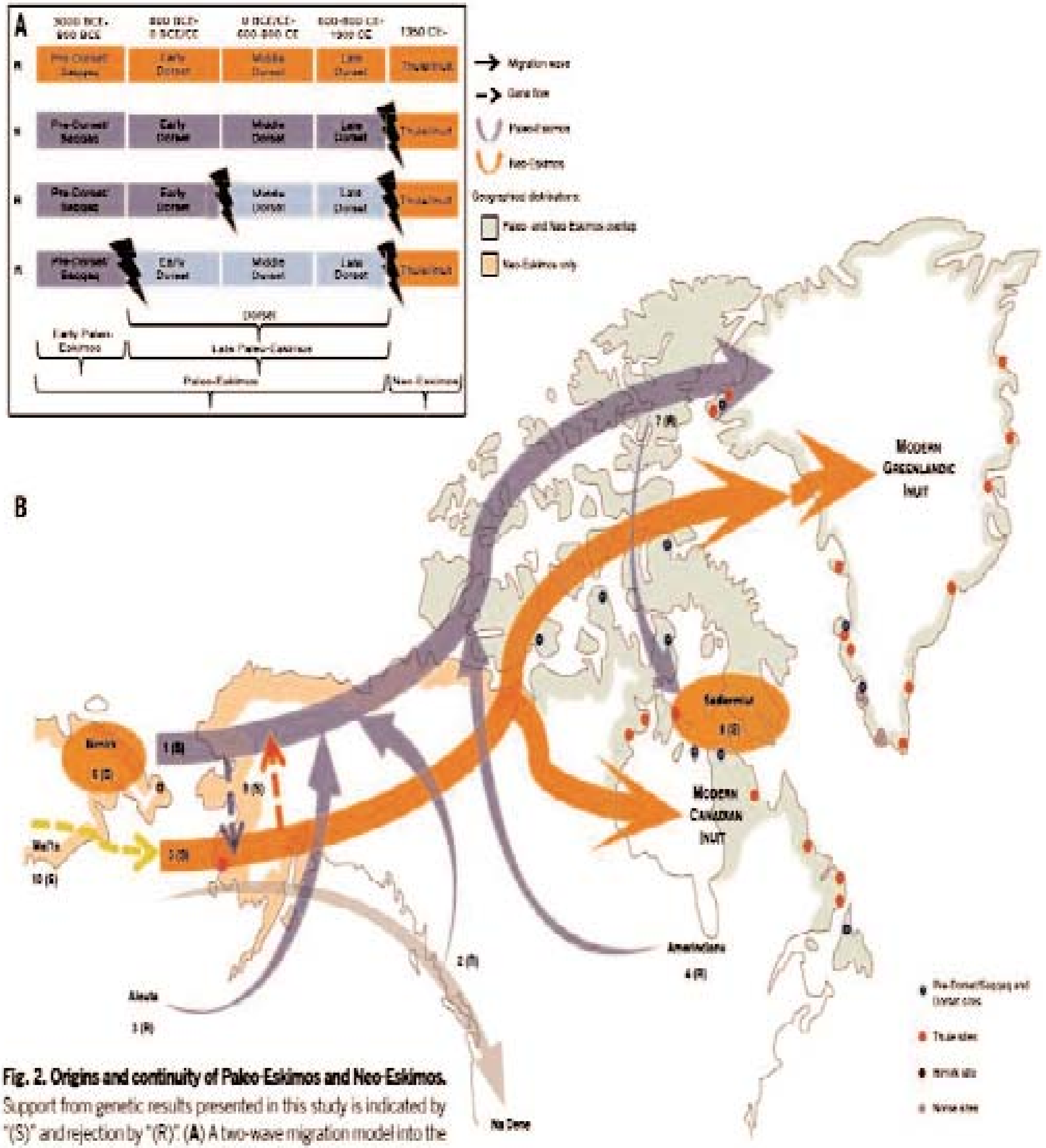


Fig. 2. Origins and continuity of Paleo-Eskimos and Neo-Eskimos. Support from genetic results presented in this study is indicated by "(S)" and rejection by "(R)". (**A**) A two-wave migration model into the New World Arctic, with continuity throughout the Paleo-Eskimo tradition, followed by the Neo-Eskimo migration, is supported. Black thunderbolt symbols represent genetic discontinuity. (**B**) This schematic summarizes the origins of Paleo- and Neo-Eskimos in the archaeological and genetic literature, including the present study, and their relationships with other ancient populations in the North American Arctic. See main text for details on the different scenarios represented by numbers 1 to 10 in the figure. For reference, we show the maximal geographical distribution of the Paleo-Eskimos and Neo-Eskimos in the New World Arctic and far-east Siberia (9). Additionally, plotted are Paleo-Eskimo (Pre-Dorset, Saqqaq, Dorset), Thule, Birnirk, and Norse sites from which samples in this study derive; for further information, see fig. S1 and table S1.

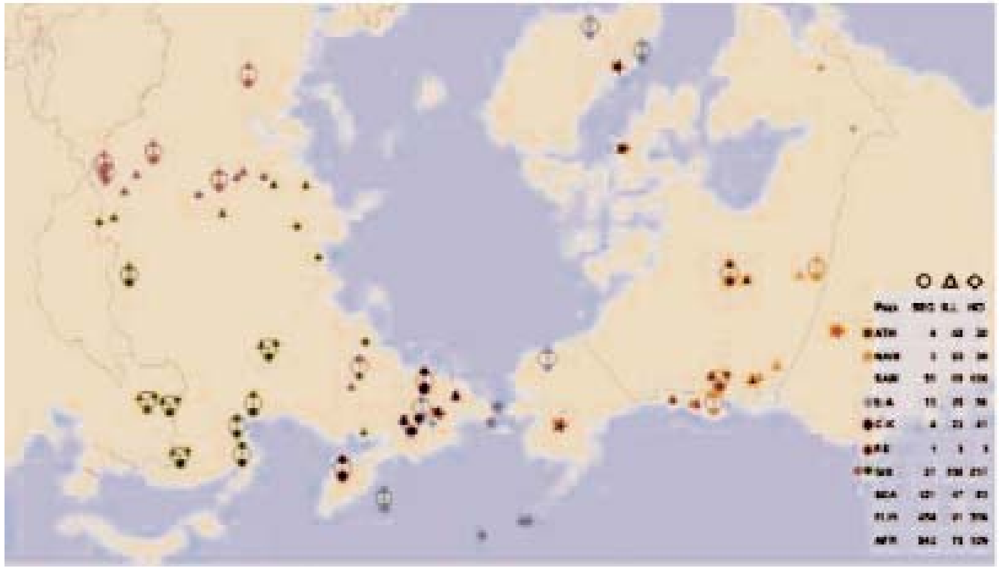
Paleo-Inuit ancestry in North America

Current evidence suggests that contemporary Native Americans descend from at least four ancient migrations from Asia. The largest contribution comes from populations who separated from the ancestors of present-day East Asian groups about 23,000 years ago and who occupied Beringia for thousands of years before entering North America. and the South about 16,000 years ago. The first divergence in this group of early Americans gave rise to a lineage that contributed to groups in northern North America (speaking a Na-Dene, Algonquian, or Salish language), and a second lineage that contributed to groups from South America and some groups from North America. The former individual of Anzick belongs to this second line. A second source of Asian ancestry is that resulting from the hypothetical population Y which contributed more to the populations of the Amazon than to the other Amerindian populations. A third wave of migration contributed about 50% of the ancestry of the Neo-Eskimo populations: Inuit and Aleut. Finally, the Na-Dené populations, including the Athabaskans, are home to a fourth ancestry of a Paleo-Eskimo population that came from Choukotka around 5,000 years ago and spread to the American Arctic around 4,000 years ago. The dominance of Paleo-Eskimo culture in the American Arctic ended 1350 to 1150 years ago with the arrival of the Thule culture first in Alaska before expanding eastward. 750 to 650 years.

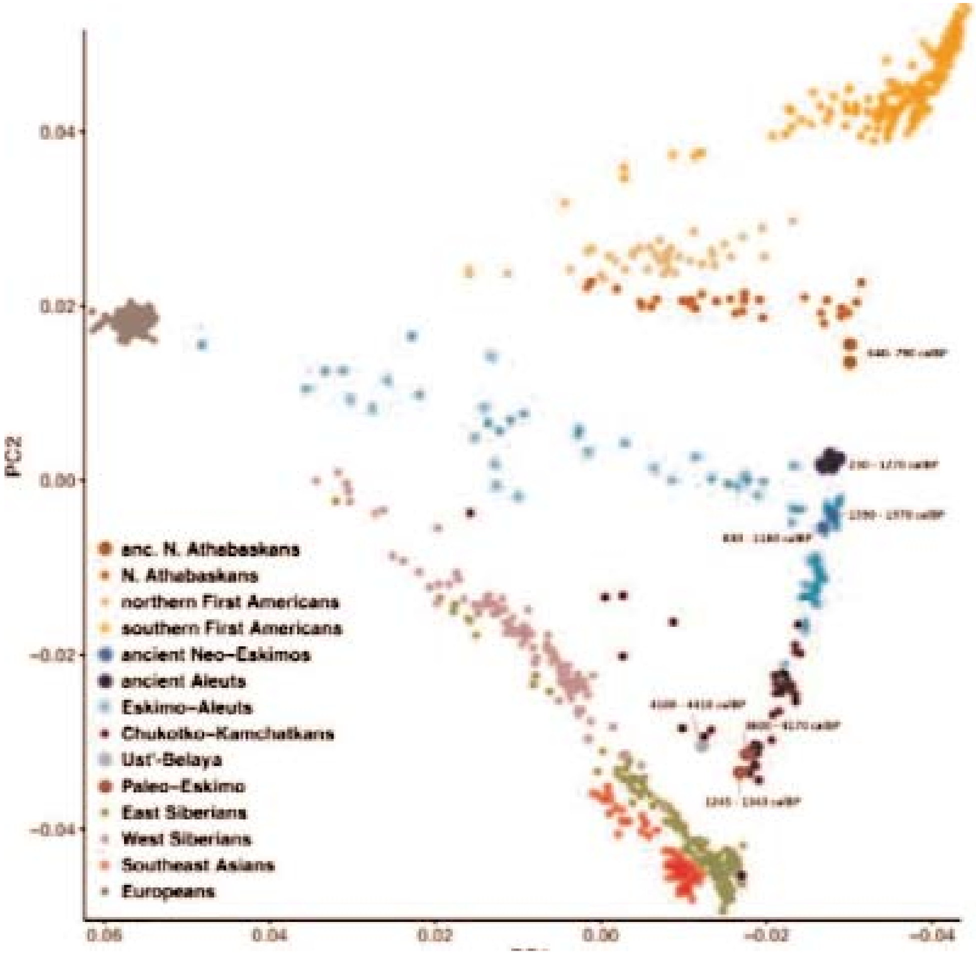
Previous studies on the genomes of Paleo-Eskimo individuals have shown that they are related to the populations of eastern Siberia: Chukotka and Kamchatka. The date of divergence is estimated to be between 6400 and 4400 years.

Paleogeneticists sequenced the genome of 17 ancient individuals including 11 ancient individuals from the Aleut Islands (2320 to 140 years), 3 ancient North Athabaskans (790 to 640 years), 2 Neo-Eskimos from Chukotka (1970 to 830 years) and an elder of the Ust'-Belaya culture also from Tchoukotka (4410 to 4100 years). These genomes were compared to current populations. In the figure below, the first individuals are indicated by stars. The color corresponds to meta-populations: Athabaskans (ATH) in light brown, North Americans (NAM) in gray brown, South Americans not represented, Eskimos and Aleut (EA) in gray blue, Tchoukotka and Kamtchatka (CK) in dark purple, Proto-Eskimo (PE) in dark brown, East Siberians in green and West Siberians in light purple (SIB):

The authors first performed a principal component analysis. In the figure below, Europeans are the gray dots on the left, Southeast Asians are the pink dots on the bottom, and South Americans are the orange dots on the top right. Former individuals are represented by larger dots:

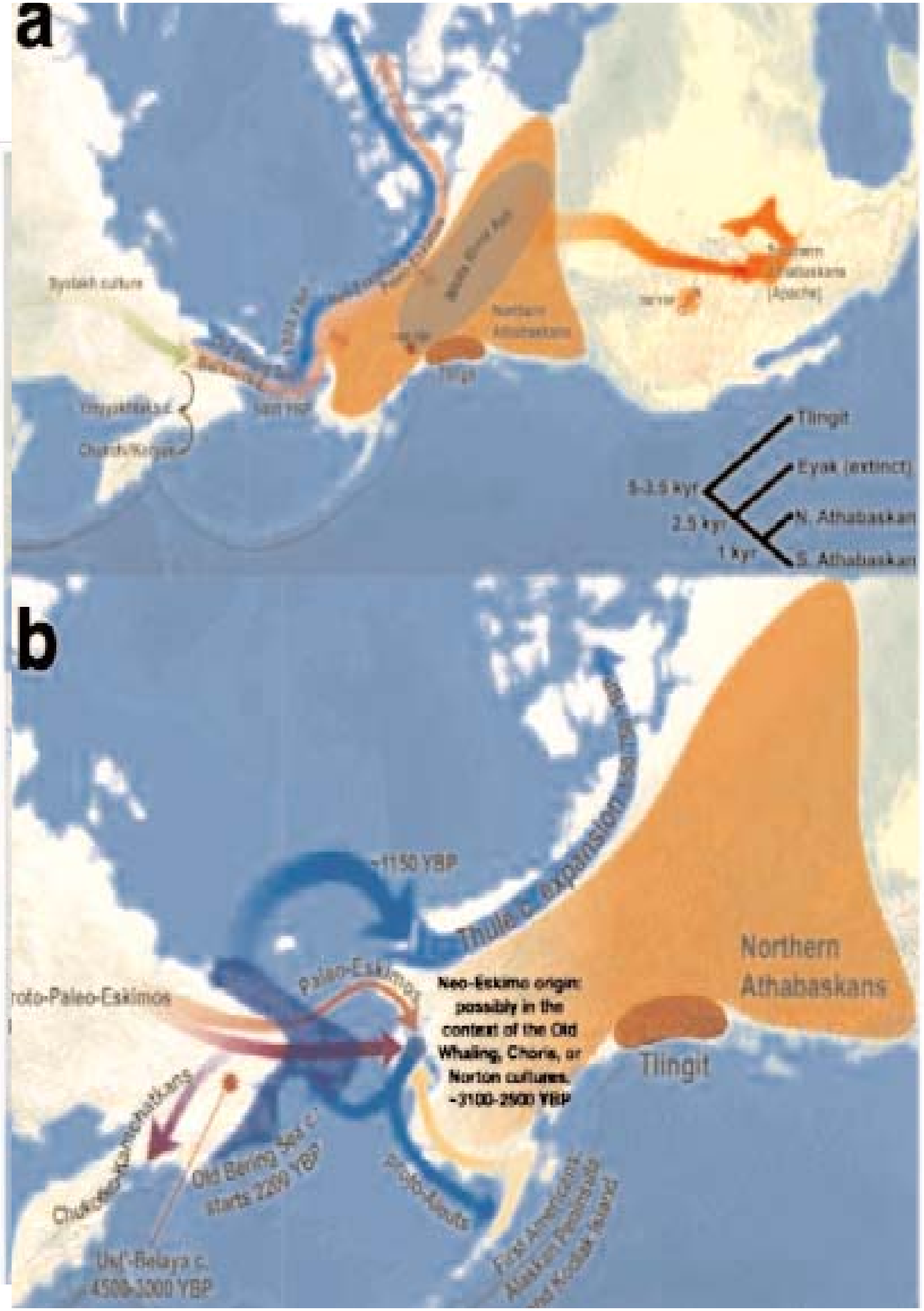


The figure below reveals a linear gradient between Paleo-Eskimos at the bottom (large dark brown dots) and South Americans at the top. Between these two extremes, we find the populations of Choukotka and Kamtchatka of eastern Siberia (purple dots), the current Aleut Eskimos (green dots), the ancient neo-Eskimos (large light blue dots) and the ancient Aleut (large blue dots).). dark), the old Athabascans (large light brown dots) and the current Athabascans (Na-Dené) (light brown dots).



This study shows two important results on the genetic heritage of the Paleo-Eskimos. First, the Paleo-Eskimos were closely related genetically to the Asian lineage that gave rise to the present populations of Eskimos and Aleuts. Second, the Paleo-Eskimos made a substantial contribution to the ancestry of the Na-Dené Native American populations.

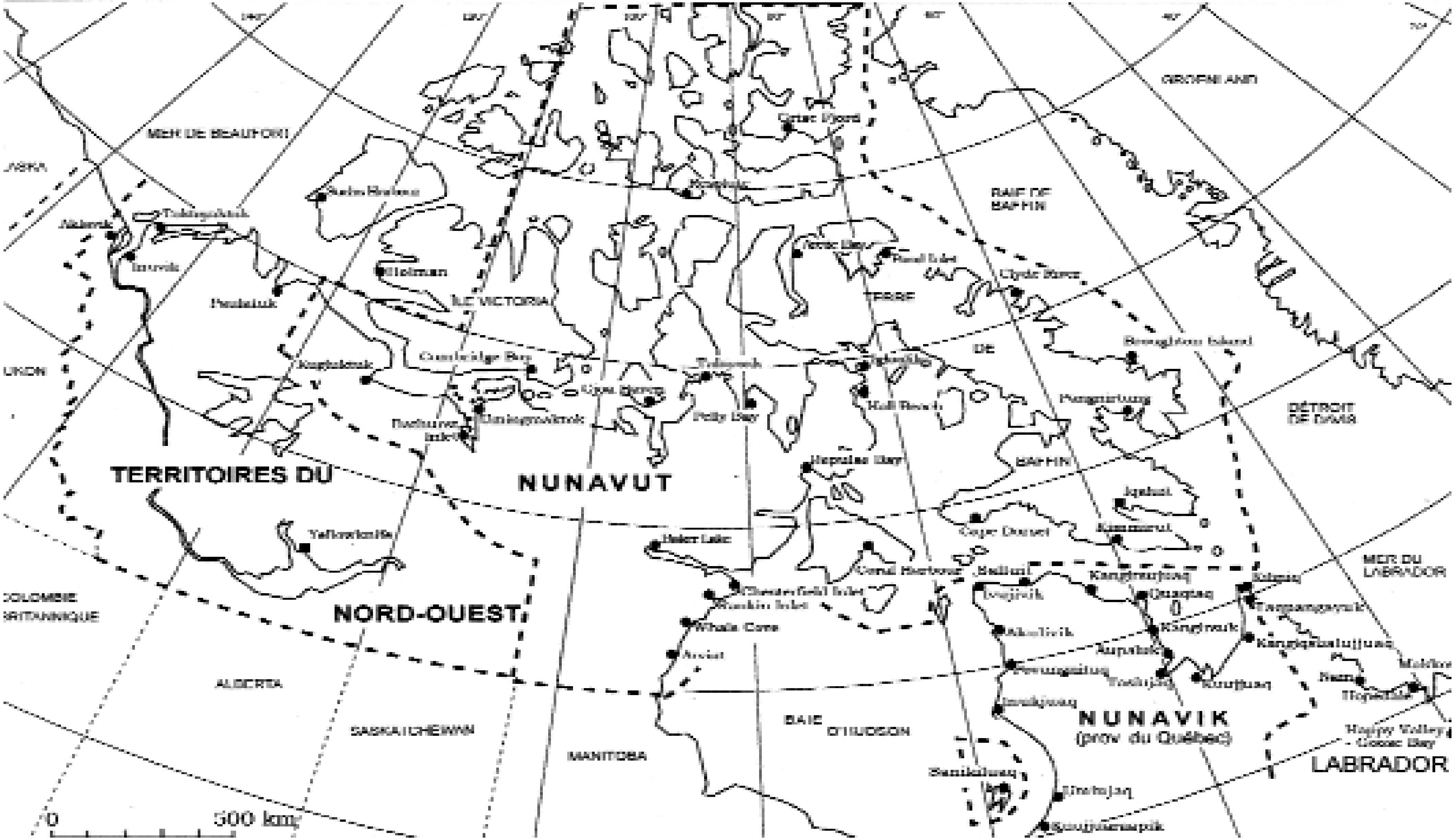
The figure opposite summarizes the results obtained in this study. Figure a indicates the arrival of a West Siberian population in the northeast (green arrow) which will give rise to the Paleo-Eskimo population which will then spread into the American Arctic (red arrow). This Paleo-Eskimo population mixes genetically with the Na-Dené populations. Later, the Neo-Eskimo population spread from northeastern Siberia to the American Arctic (blue arrow). All these results suggest that the current Na-Dené populations have between 10 and 25% of Paleo-Eskimo ancestry.


a
Northern Athabaskans
Tlingit
Southern Athabaskans (Apache)
Tlingit
Eyak (extinct)
N. Athabaskan
S. Athabaskan
5-3.5 kyr
2.5 kyr
1 kyr
b
~1150 YBP
Thule c. expansion
Paleo-Eskimos
proto-Paleo-Eskimos
Neo-Eskimo origin: possibly in the context of the Old Whaling, Choris, or Norton cultures. ~3100-2500 YBP
Northern Athabaskans
Tlingit
Chukotko-Kamchatkans
Old Bering Sea c. starts 2200 YBP
proto-Aleuts
Ust'-Belaya c. 4500-3000 YBP
First Americans: Alaskan Peninsula and Kodiak Island

This is also true for the three ancient Athabaskans who, however, have a slightly higher proportion of Paleo-Eskimo ancestry than present-day Na-Dené populations. This implies some genetic continuity over 800 years, however with a slight decrease in Paleo-Eskimo ancestry over time.

In Figure b above, the authors suggest that Paleo-Eskimos and early Americans met in western Alaska in the Old Whaling, Choris, Norton, and Ipiutak cultures. between 3100 and 2500 years. The culture of the ancient Bering Sea (dark blue) spread 2,200 years ago. Finally, the Thule culture spread east around 1150 years ago.

Les points de sédentarisation inuit



THE PEOPLE OF GREENLAND

The North Polar region has been colonized by humans for the past 5,000 years. The first Paleo-Eskimos arrived from Beringia along the northern coasts of Alaska and Canada around 4,500 years ago. They reached Greenland 4,500 to 4,000 years ago. About 3,500 to 3,000 years ago, the Dorset culture developed in eastern Canada around Hudson Bay, then spread west and north to reach Greenland 2,800 ago years, and replace the ancient Paleo-Eskimo culture. About 1000 years ago, the Thule culture emerged along the northern coasts of Alaska, then spread throughout the North Polar region to reach Greenland about 1000 or 800 years ago.

Controversies still exist today about a possible genetic mixture between the Inuit populations of the Dorset and Thule cultures. There are clues that show that Dorset culture died out before the arrival of Thule culture. However, other studies claim that the Dorset and Thule cultures coexisted for 200 years.

The first Europeans arrived in Greenland with the Vikings from Norway and Iceland around the year 985. They first settled on the south and west coasts. However, it is believed that the Viking population did not survive after the year 1450. Then, in 1721, the Danes and Norwegians again arrived in Greenland. They set up trading posts to exchange products with the local communities along the Greenland coast.

The current population of Greenland is mixed and contains Inuit and European genes. However, mitochondrial studies have shown that the vast majority of maternal lineages are of Inuit origin. On the contrary, studies of the Y chromosome have shown that the paternal lineages are highly mixed, with a European component ranging up to 45% of the genetics of the population of Greenland.

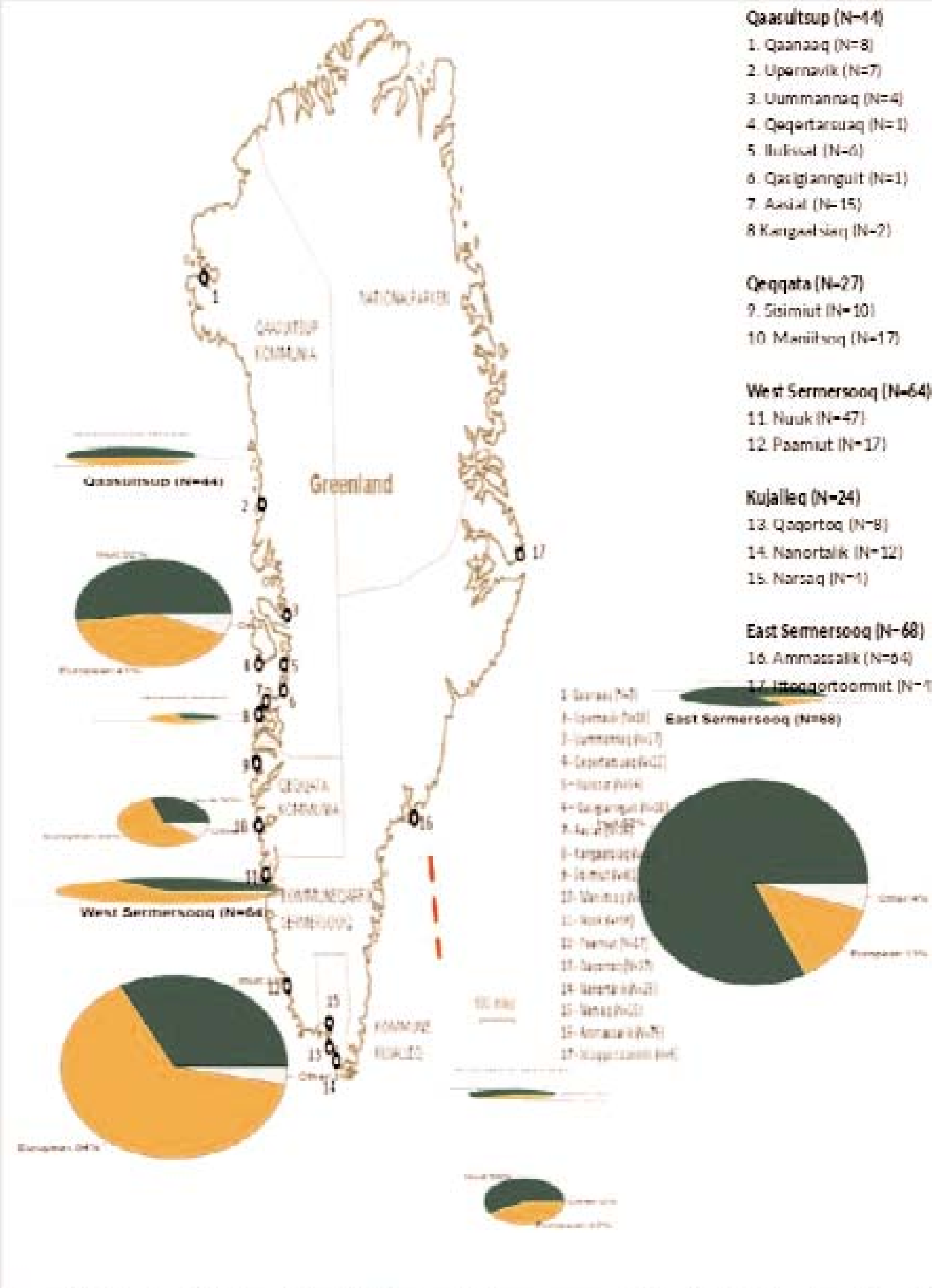
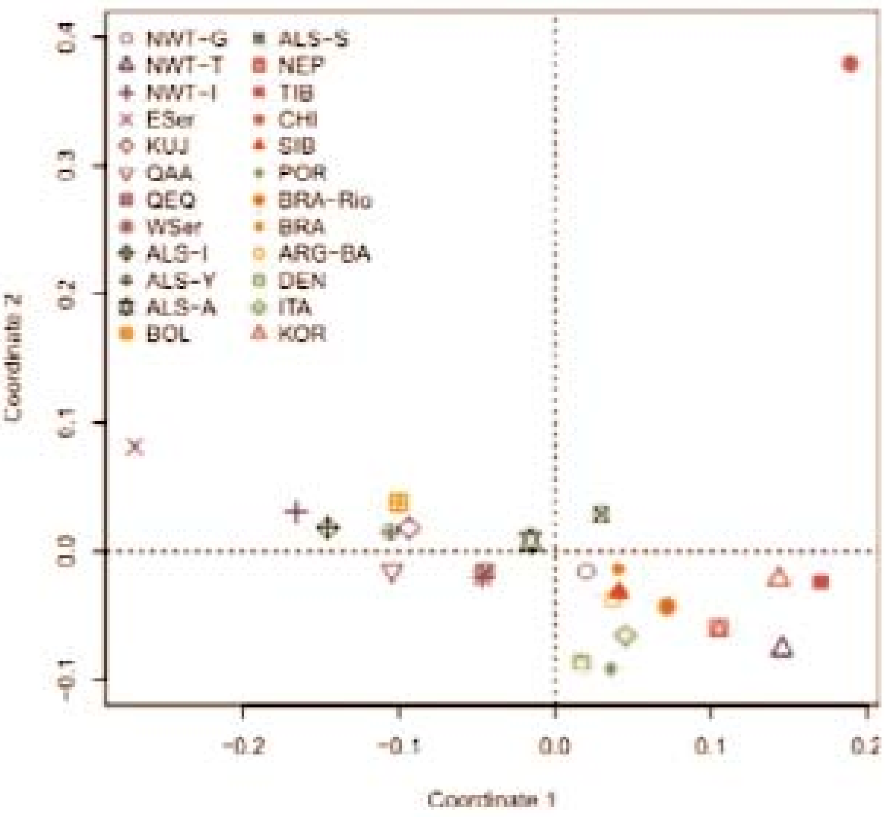


Figure B. The distribution of the Y-HGs (Inuit, European and other) in the five investigated

of Greenland. Inuit: Q-NWT01 (xM265), Q-M3 (xM19, M194, L663, SA01 and L766). E

I-M170, R1a-M513 and R1b-M343.



Jill Katharina Olofsson has just published a paper entitled: Peopling of the North Circumpolar Region - Insights from Y Chromosome STR and SNP Typing of Greenlanders. In this study 227 men from Greenland were tested on 73 SNP markers and 17 STR markers. In order to compare this population of Greenland to a Scandinavian population, 241 Danes were also tested.
21 different haplogroups of the Y chromosome have been identified in the population of Greenland:

Two subclades of Q-M242 are predominant: Q-NWT01 * and Q-M3 *. About 40% of males in Greenland have a European haplogroup (I, R1a or R1b). These haplogroups are found mainly on the west and south coast. These 3 haplogroups form the vast majority of the Danish population: I (39%), R1a (17%) and R1b (37%). 11 samples from Greenland and 13 samples from Denmark could not be assigned to a haplogroup from the tested SNPs. However, a prediction could be obtained from their STR markers. Thus 1 sample from Greenland could be predicted belonging to haplogroup Q-M242.

The greatest diversity of the Greenland population is found among the western Sermersooq and the lowest diversity among the eastern Sermersooq. It is divided into three groups:

§ Inuit lineages (Q-NWT01 and Q-M3)
§ European lineages (I, R1a and R1b)
§ Lineages not determined

There is a decrease in Inuit lineages along the coast of Greenland, from 82% among the Sermersooq in the east to 30% among the Qeqqata in the west. The European lineages grow in reverse from 13% among the Sermersooq of the east to 64% among the Sermersooq of the west and 59% among the Qeqqata. A multidimensional analysis was carried out to compare the populations of Greenland with other populations of the world:

The eastern Sermersooq population (purple cross on the left) is set apart from other populations in Greenland, but closest to the Inuvialuit of northwestern Canada. The other populations of Greenland are close to the populations of Alaska. The populations of Qeqqata and the Sermersooq of the west are the closest to the European populations.

The diversity of European lineages of Greenland populations are similar to the diversity of the Danes, except for haplogroup R1a for which the diversity of the populations of Greenland is lower than that of the Danes. Inuit lineages have twice the diversity of European lineages. We can therefore think that the Inuit lineages are more recent than the European lineages.

The comparison of the STR haplotypes of the populations of Greenland belonging to an Inuit lineage with the populations of the Canadian northwest, shows that they have a common origin. The age of the Q-NWT01 subclade is estimated between 7,000 and 14,300 and the age of Q-M3 between 4,400 and 10,900 years. The latter is therefore more recent, but since there is a significant overlap between the two estimates, it is difficult to know whether it is a single colonization by these two subclades, or two successive colonizations. The age of the Q-M3 subclade in Greenland is lower than the age of this same subclade in northwestern Canada. It is therefore likely that the carriers of the Q-M3 subclade are descendants of the Thule culture which originated in northern Alaska.

Conversely, the age of the Q-NWT01 subclade in Greenland is older than the age of this same subclade in northwestern Canada. It could thus be that this subclade arrived in North America and then spread with the Dorset culture. According to this hypothesis, there would therefore have been a genetic mixture between the Dorset and Thule cultures.

THE GENETIC ORIGINALITY OF THE INUITS OF NUNAVIK

Researchers have discovered that the Inuit of Nunavik, in northern Quebec, are genetically unique. They would be distinct from any other current population across the world. According to these scientists, studying the genes of indigenous minority populations could help provide better health care tailored to these communities.

In a study published Monday in the journal Proceedings of the National Academy of Sciences, they established the complete genetic profile of Inuit in the Nunavik region - a first, according to them. Sirui Zhou recalls that only a small group of Arctic Inuit have been the subject of genetic profiling in the world, as is the case among most indigenous populations in Canada.

The study found that the Inuit of Nunavik may hold genetic components derived from ancient indigenous populations in the Arctic because, while inspecting parts of the genome of the Inuit of Nunavik, it discovered approximately 130 unique genetic variations. According to current knowledge, this would be a "substantial amount." The genetic ancestry from the Palaeo-Eskimos is virtually extinct in all current populations. But the Inuit of Nunavik probably have the largest component of a Paleo-Eskimo ancestry.

PRE-COLOMBIAN MEETING

Perhaps this genetic peculiarity would come from the contact of the Inuit of Nunavik with the Vikind population around the year 1000. Indeed, one of the most interesting geographical works that has emerged concerning the discoveries of the Scandinavians in the Americas is that of MP Stensby, professor of geography at the University of Copenhagen, work published in 1918. Here is the route followed by the Viking expedition which started from southern Greenland and led by Thornfin Karlsefui in the year 1000, as interpreted by Mr. Stensby.

According to Nordic sagas from the 12th and 13th centuries, Nordic explorer Leif Eriksson buys a boat from a sailor named Bjarni Herjolfsson, who claims that when the wind blew it off the coast traveling west of Greenland, he saw the coast of a large landmass. Eriksson goes looking for him. He and his crew explore two islands; one they call Helluland, and another one they call Markland. Scholars later identify them as Baffin Island and Labrador, respectively.

It would first have gone up the western coast of Greenland a great distance then it would have coasted Labrador to the Strait of Belle Isle (region called Helluland) where it would have entered the Gulf of St. Lawrence along the coast. North (called Furdustrand) to Pointe-aux-Vaches near Tadoussac that Karlsefui designated under the name of Kjalarnes. From there, he went up the St. Lawrence River (called Straumfjord) and reached and wintered at Île-aux-Lièvres (called Straumey). By continuing to go up the Straumfjord, the Viking expedition would have finally reached Montmagny (called Hop designating the small basin at the mouth of the Rivière-du-Sud). According to Stensby, the famous country of Vinland (the most western of the countries discovered by the Vikings) would be none other than the southern region of the river, around Montmagny.

However, according to historically recognized data, the Vikings (Norse) moved from Scandinavia in the 9th century to Iceland and Greenland and subsequently continued their explorations westward to reach the coast of Labrador and the Isle of Newfoundland. For the time being and until proven otherwise, Helluland would be Baffin Land and Markland would be Labrador. Baffin Land provided the most prized bird for falconry ie the white hawk while Labrador provided the timber they needed. Vinland would be located in Anse-aux-Meadows (Newfoundland) where Leif Eriksson, son of the famous Eric the Red, would have founded a small trading colony called Leifsbudir. His son, the first Viking born in America, was named Snorri. The Vikings of l'Anse-aux-Meadows would thus be the first Europeans to set foot on American soil and to establish contact with the Amerindians and the Inuit. The Scandinavian legends, called "saga", in fact mention individuals called "Skraelings" that are generally associated with the Natives of the New World, while the Eskimo legends recount the presence of the Tunnits, a tribe of men. gigantic who hunted and fished in Baffin Land and Labrador. Everything suggests that these supernatural beings were Vikings from Iceland

'Eriksson remained in Vinland for almost a year. There, they build settlements and come into contact with the indigenous peoples of the region - most likely either Inuit or Beothuk - whom the Normans call the Skraelings (literally "miserable"). The Skraelings give travelers animal skins and ivory in exchange for metal tools and wool. The other encounters are less successful: on several occasions, the Nordics kill Skraelings. The Skraelings avenge the murders by shooting arrows at the invading ship. Eriksson is killed in the attack and his crew returns to Greenland due to native resistance to their acts of violence.

The hostility of the Inuit and the Beothuk towards the Vikings prompted the latter to abandon their attempt at colonization in Vinland. Having eaten this, it is quite possible that following the fighting, Inuit farms were removed to serve as spoils of war as was the custom of the time, hence the genomic mixture of populations which would have thus established the genetic specificity of the Inuit of Nunavik.

The Beothuk of Newfoundland are a good example. Dressed in skins of beasts and wearing braids adorned with bird feathers, the body painted a tanned color, these descriptions seem to correspond to the Beothuk who used red ocher a lot. As for the ethnic origins of the Beothuk, most anthropologists classify them in the family of the Montagnais (Innu). However, their culture differed in many ways from that of other Native American nations. In fact, the Beothuk are the only ones, in addition to teepees in summer, to build and inhabit wood-on-wood houses with pyramidal roofs and caulked with moss. They are the only ones to know deep sea navigation, that is to say sailing on the high seas crisscrossing the ocean far from the sight of the coast in their large canoes of thirty paddlers. They are the only ones to make sausages made from bird flesh, eggs and fat, a kind of confit piled up in seal guts. Finally, the Beothuk were tall, nearly six feet, had fair eyes and complexions, brown hair which they coated with a mixture of red ocher and seal oil. For all these reasons, some researchers are beginning to believe that around the year one thousand, there would have been interbreeding, therefore sharing of genes and knowledge (house, navigation etc.) between the Vikings and them.

Another possibility of European genomic transmission in America is even older than the year 1000. History or legend, the Irish "papae" are said to be the first Europeans to set foot on American soil. Here then is the saga (story) since it appears, from the eleventh century, in the pages recited by the "skaldes" or Icelandic chroniclers before being transcribed on parchment in the following centuries.

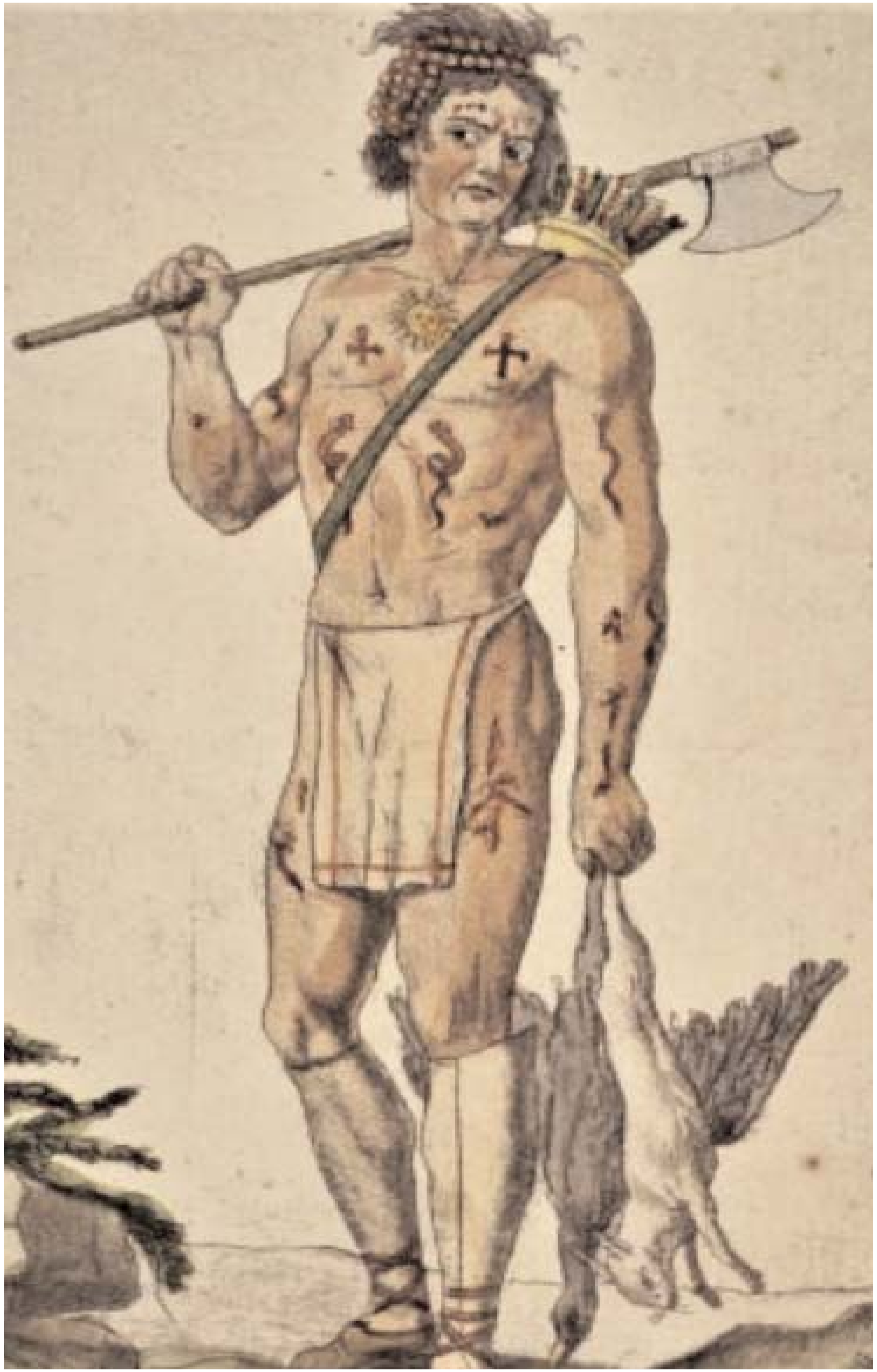
Populated by Celts, Ireland converted to Christianity in the fifth century. Around 500, many monasteries arose and monks who took the name of "papae" then set off towards the sea to discover new deserted lands. Dressed in their great white robes and carried by their boats with two rows of oars, they reached the Hebrides Islands, the Orkney Islands and others pushed north to the Shetlands and the Faroe Islands where place names still evoke their presence. Thus from the beginning of the eighth century around 700 and as reported by Dicuil, a great annalist of the time, they led a peaceful existence of solitude and asceticism until the drakkars of the Scandinavian pirates threw themselves into the assault. of the Hebrides, Shetlands and Faroe Islands. Hordes of Vikings devastated and burned the Irish monasteries around 770. Once again in exile and determined to flee the domination of these barbarian pagans, they sank again into the ocean towards a distant island they knew to be inhabited by small children. groups of fishermen and Celtic refugees. It was Iceland, the "ultima Thule", the last known in the North Atlantic. They settled there and founded the establishments of Papey, Papos and Papylée, all names of Irish origin, and lived for nearly a century in peace.

In 874, two Norwegian chiefs Ingolf and Hjorlaf landed on the southwest coast of Iceland and founded a colony on the present site of Reykjavik. Faced with this new eruption of the secular and barbaric enemy, the peaceful Irish-Celtic people understood that their days of social and religious freedom had come to an end. A new maritime caravan headed west towards unknown lands. Driven by the north-easterly winds, the Irish fugitives thus approached the Labrador coast and were swept away by the currents in the Strait of Belle Isle and the Gulf of St. Lawrence and settled on the Island of Cape Town. Breton entering thereafter in relation with the nomads of the island: the Micmacs. Thus, around 880, the Irish papae became the first Europeans to set foot on American soil, six hundred years before Christopher Columbus, Cabot, Corte Real and Jacques Cartier.

The Icelandic annals (1006) relate testimonies collected from the Eskimos by the first Vikings who tell that in the south in the gulf "lived men, who walked, dressed in white, carrying in front of them poles on which were fixed pieces of stuff, while singing very loudly "; ie the description of a procession of Irish papae in monastic costume. Also the Icelandic annals add that it is about the territory named "Huitramannaland" ie the "Country of the white men" and located to the west of the "Vinland" viking (Newfoundland) is the Island of Cape Breton.

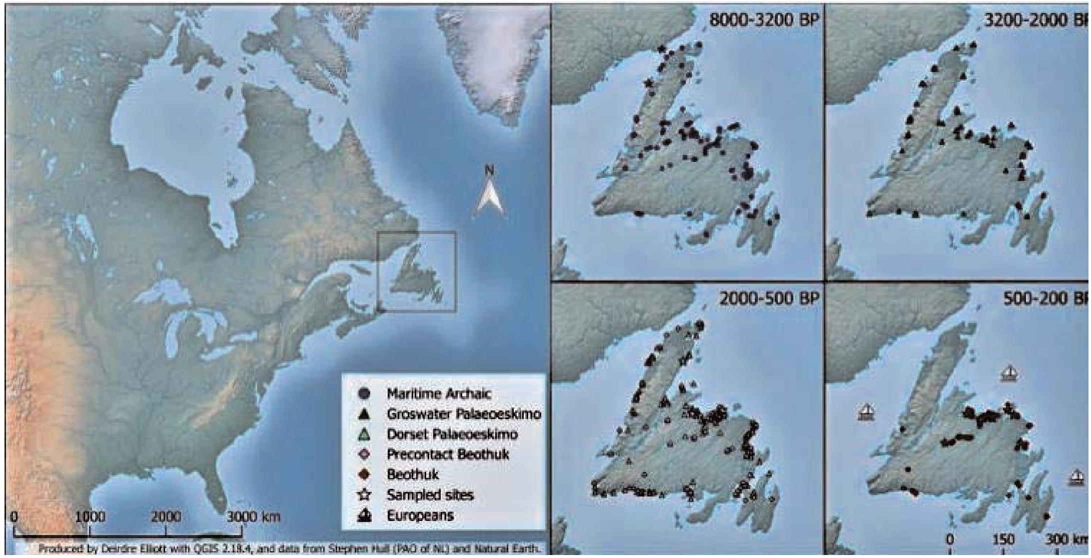
Then time accomplished its work and the small Irish community disappeared. The Mi'kmaq transformed the cross into a fetish of protection and veneration and planted others in hunting and fishing grounds. Seven centuries later, Champlain found in 1604 in this region an aged wooden cross, "a clear sign, he writes, that in the past, there had been Christians there," In their turn, the first missionaries were astonished to see the Mi'kmaq put crosses everywhere and even wear the sign on their clothes. These were the last survivals of the Irish-Celtic colony on Canadian soil. We will retain the odyssey of the Irish "papae" as a legend, although plausible, until archaeological discoveries come to propel it into the realm of official history.

Note on this portrait from the time of a Mi'kmaq, the Christian cross on the top of the chest, on the right.



Ancient Beothuk mitochondrial DNA in Newfoundland, Canada

The oldest traces of occupation in Labrador are at L'Anse Amour and date back to 7,700 years ago. It is one of the first manifestations of Archaic Maritime culture. This tradition is characterized by the exploitation of marine resources and extends along the coast of Newfoundland between 4500 and 3400 years. Its disappearance is probably linked to the climatic cooling reflected by the decrease in spruce forests, or to the competition with the first arrivals of the Paleo-Eskimo Pre-Dorset culture, the first traces of which in Newfoundland date from around there. 3800 years old. Then the Paleo-Eskimos Groswater and Dorset cultures thrive in the region. When the first Europeans arrived, the Amerindians of Newfoundland were called Beothuk:

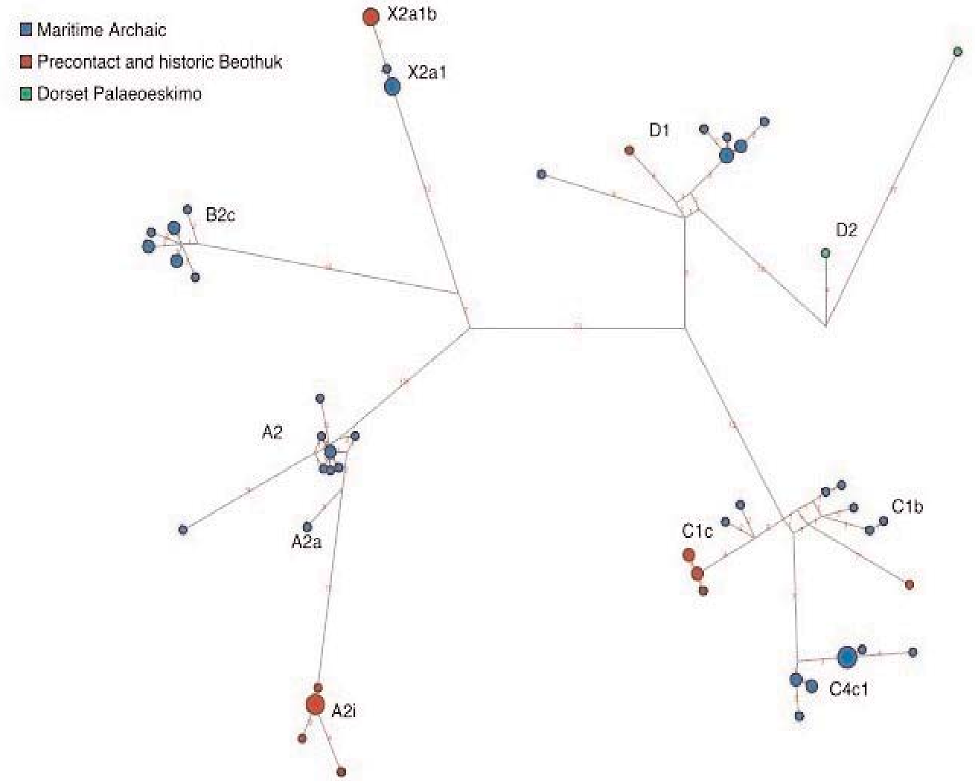


Produced by Deirdre Elliott with QGIS 2.18.4, and data from Stephen Hull (PAO of NL) and Natural Earth.

Most anthropologists classify the Beothuk in the Montagnais (Innu) family. The first European slavery act was committed by the Portuguese Gaspar Corte Real against the Beothuk of Newfoundland in 1500. This kidnapping was to be used to pay the expenses of the expedition following the sale of the Indians as slaves.

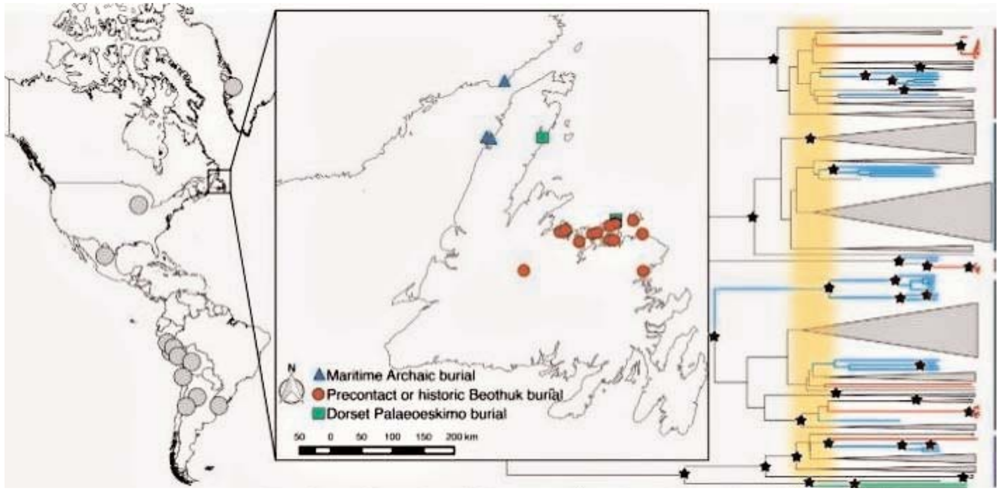
Living on the island of Newfoundland, the Beothuk exploited seasonal resources such as salmon and seals as well as caribou. They were attacked, some killed, others captured. "People frightening and saving", expression used by Cartier. Who are these "terrible savages" that Cartier meets in the Strait of Belle Isle? Dressed in animal skins and wearing plaits adorned with bird feathers, the body painted a tanned color, these descriptions seem to correspond to the Beothuk who used red ocher extensively and who were said to have been on a hunting expedition on the Coast. North outside their usual territory, Newfoundland. Subsequently, they were exterminated by the English colonists who hunted and killed them just like the deer. Captain Georges Cartwright, in his voluminous work "A Journal of Transactions & Events on the Coast of Labrador", wrote in 1770: "Their number must constantly decrease because our people are murdering all those (Beothuk) they can, destroying their provisions, ransack their canoes and utensils, so many entire families starved to death because of it. I'm sorry to say that the settlers are greater savages than the Indians themselves ... If the invasion of their territory by the Europeans continues at this rate, they will not survive very long. This prediction turned out to be correct. Following these attacks, they took refuge in the interior, refusing any contact thereafter. This strategy helped to isolate them more and more until the extinction of the tribe in 1829.

Geneticists have just published a paper entitled: Genetic Discontinuity between the Maritime Archaic and Beothuk Populations in Newfoundland, Canada. They tested the mitochondrial DNA of 151 individuals belonging to the Maritime Archaic, Paleo-Eskimo and Beothuk cultures. Results were obtained for 74 individuals including 53 from the Maritime Archaic culture, 2 from the Dorset culture and 19 Beothuk. They belong to the well-known Native American mitochondrial haplogroups : A2, B2, C1, C4, D1, D2 and X2:



Mitochondrial diversity is high in Maritime Archaic and Beothuk, which contrasts with previous results which showed low diversity in Dorset culture (unique haplogroup D2a). There is no progeny relationship between the Maritime Archaic samples and the Beothuk samples with the exception of individuals of haplogroup X2a. It is also interesting to note that the man from Kennewick on the east coast of North America and dated 8,800 years ago, belonged to a basal form of haplogroup X2a. These data suggest that the origin of the mitochondrial haplogroup X2a is in Northeastern America, and that it then spread from the North Pacific coast to the North Atlantic coast at least 4000 years ago. .

The authors then used the BEAST software to draw a tree of the different maternal lineages associated with the dates of separation of the different branches:


Maritime Archaic burial
Precontact or historic Beothuk burial
Dorset Palaeoeskimo burial
N
50 0 50 100 150 200 km

These results suggest a strong genetic discontinuity between the Maritime Archaic and Beothuk populations. Moreover, these two populations do not descend from the same ancestral population of the region. The latter has therefore undergone several waves of human migration.

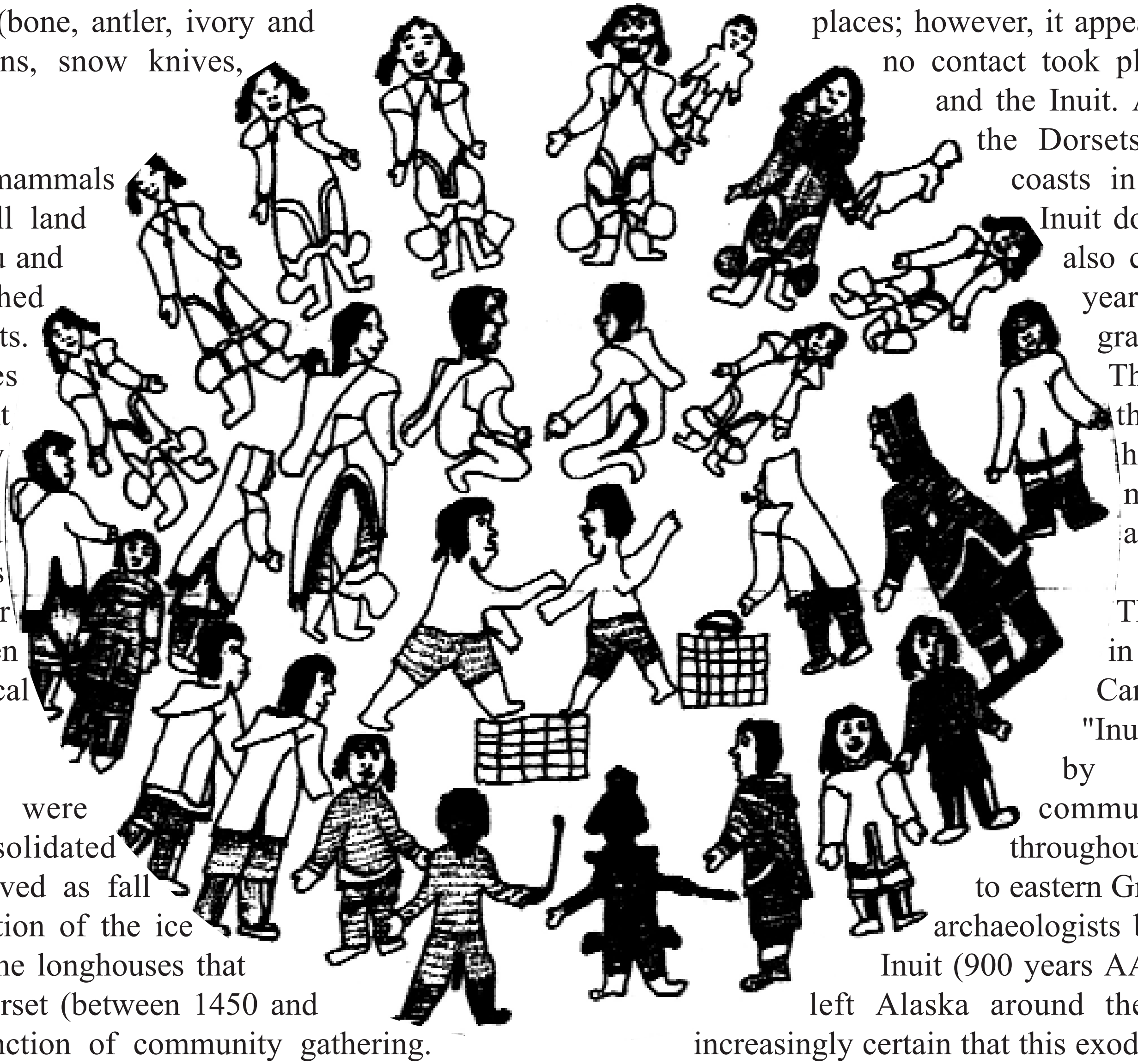
Indeed, their culture differed in many ways from that of other Native American nations. In fact, the Beothuk are the only ones, in addition to teepees in summer, to build and inhabit wood-on-wood houses with pyramidal roofs and caulked with moss. They are the only ones to know deep sea navigation, that is to say sailing on the high seas crisscrossing the ocean far from the sight of the coast in their large canoes of thirty paddlers. They are the only ones to make sausages made from bird flesh, eggs and fat, a kind of confit piled up in seal guts. Finally, the Beothuk were tall, nearly six feet, had fair eyes and complexions, brown hair which they coated with a mixture of red ocher and seal oil. For all these reasons, some researchers are beginning to believe that around the year one thousand, there would have been interbreeding, therefore sharing of genes and knowledge (house, navigation etc.) between the Vikings and them.

ABYA YALA ARCTIC

INUIT COMMUNITIES

An Inuk: Formerly Eskimo.
Around 5,000 years ago, a first Inuit migratory wave crossed the Bering Strait from eastern Siberia. Around 4500, a long migratory movement begins from Alaska, a second will follow in the year 1000. These groups, called ancient paleo-Eskimos, will gradually populate almost all of the islands and the northern edge of the American continent. to Greenland. The Arctic was populated 4,500 years ago by groups of hunters of Alaskan origin who would have traveled east in pursuit of game. These movements towards the Canadian Arctic and Greenland would have been facilitated by global warming. These groups generally called ancient Paleo-Eskimos are divided into three sub-groups: Independence I, a sub-group associated with the territories of the far north (Ellesmere and northern Greenland), Saqqaq which is found in the region of Disko Bay and areas southwest of Greenland, and the Pre-Dorset people found elsewhere in the Canadian Arctic. Although these groups have adapted in different ways to distinct environments, their technology is similar: microlithic tooling, highly adapted to the life of a nomadic hunter in the Arctic. The Pre-Dorset (4000 - 2500 years AA) were small groups of nomadic hunters who occupied the Ungava Peninsula and the coasts of Hudson Bay and Ungava Bay between 4000 and 2500 years AA. They had a livelihood based on land resources, mainly caribou, but also hunted certain marine mammals. They supplemented their diet with fishing and gathering, depending on the availability of resources. They possibly had boats similar to the kayak. The presence of dog remains at some sites suggests that they could use these animals for winter transport. Pre-Dorset culture is characterized by generally microlithic tools: chisels, small shaped points, punches, scrapers and microblades. Housing structures are often made up of two parallel rows of stones and a central hearth. There are also summer tents without interior fittings and semi-underground houses in the boulder fields. The pre-Dorset people developed the technology of soapstone lamps, which are efficient in terms of light and heat. Unlike the Amerindians, there are still groups related to the North American Inuit in northeastern Siberia. The transition from the end of the Pre-Dorset to the start of the Dorset has been poorly documented. In some areas there seems to be a discontinuity between these two cultures. It is likely that the pre-Dorset disappearance is attributable to a cooling that occurred between 3,400 and 1,900 years AA. Whatever the cause, the pre-Dorset people of Nunavik disappeared from certain regions which remained unoccupied for some time before the arrival of the Dorset groups. Around 2,500 years ago, the Inuit (Dorset) arrived on the whole coast of Labrador and from Blanc-Sablon to Rivière-Saint-Paul, called "Quitzezaqui", the "Great River". The Dorsets (2,500 - 900 years AA) appeared in the eastern Arctic around 2,500 years A.D., probably from a pre-Dorset population basin, although opinions are divided about the continuity between them. two cultures. There could have been technical continuity without there having been continuity in the local or regional population. Initially, the Dorset culture is mainly present in the Lower Arctic in Nunavut, Nunavik, Labrador and Newfoundland (2,500 years AA).

It did not appear in the High Arctic until the end of the Dorset period. For several hundred years, the High Arctic and northern Greenland were persona non grata. The Dorsetian is characterized by a variety of lithic tools: triangular points, pseudo-burins, scrapers, semi-circular scrapers, adzes and microblades. The good preservation on certain Dorset sites has also made it possible to identify an industry based on organic materials (bone, antler, ivory and wood: harpoon heads, foens, snow knives, crampons, etc.).



The Dorsets hunted marine mammals (except large whales), small land mammals, as well as caribou and migratory birds. They fished and gathered different plants. Their dwelling structures varied in size, most often tent structures, which frequently included axial arrangements. The tents were probably used in the summer, while igloos were likely built in the winter since snow knives have been found at several archaeological sites.

Semi-subterranean houses were also built in the unconsolidated deposits and may have served as fall dwellings during the formation of the ice floe, or winter dwellings. The longhouses that appeared during the late Dorset (between 1450 and 1000 years AA) had a function of community gathering. Small handcrafted objects are carved in ivory, bone, antler and soapstone; these are animal or anthropomorphic representations. The end of the Dorset period is the subject of several debates. For some, the Dorsets would have disappeared from the Eastern Arctic before the arrival of the Inuit. For others, the Dorset occupation in Nunavik would have lasted until the 1500s and the two cultures would have been in contact.

It is possible that these meetings took place in certain places; however, it appears clear that in Nunavik no contact took place between the Dorset and the Inuit. A cooling climate forces the Dorsets to migrate along the coasts in search of food. These Inuit do not only hunt seals but also caribou inland. From the year 1000, the Dorsets were gradually replaced by the Thule, direct ancestors of the current Inuit and hunters of large marine mammals such as whales and walruses.

The majority of Inuit live in the northern regions of Canada, known as Nunaat or "Inuit homeland", populated by small villages and communities scattered throughout the Arctic, from Alaska to eastern Greenland. For many years archaeologists believed that the Thule / Inuit (900 years AA - period historical) had left Alaska around the year 1000, but it is increasingly certain that this exodus occurred much later.

The Thule culture developed in Northwest Alaska around 1000 years A.D. and then migrated to the Canadian Arctic. It was during the 12th century AD that the Thule / Inuit groups gradually spread in the eastern Arctic, notably in Greenland, on Ellesmere Island, then finally in Nunavik and Labrador. The Thule / Inuit subsistence was oriented towards hunting large whales. They developed a technology adapted to the exploitation of this type of resource. Their livelihood was also focused on smaller marine and terrestrial mammals and migratory birds depending on resource availability and regionally. During this period, umiaqs appear, large boats that can hold several people, used for hunting large whales and for traveling over long distances. The technology of the Thule / Inuit is very diversified and ingenious as much for the organic materials, which they favored, as for the lithic materials. They built semi-subterranean structures, with an entrance tunnel, which served them mainly as homes in late autumn and early winter. In winter, they built igloos and in summer, skin tents. Around the 13th and 14th centuries AD, we find more and more Thule sites in environments where the water bodies are shallow, which implies a change and a diversification of the exploited resources. Large whales are abandoned in favor of seals, walruses and land resources. Again, archaeologists tend to explain these changes as changes in climate. This period coincides with the Little Ice Age (1400s to 1600s), an important episode of climatic cooling, but it is probably not the only factor that caused a change in the Thule livelihoods. The Thule people of Canada are geographically divided as follows : Inuvialuit (western Canada) Nunavut (Northwest Territories), Nunavik (northern Quebec), Nunatsiavut (Labrador). Moreover in Nunavik, Nunavimmiut are again subdivided (local identities) between Itivimiut (Ungava) and Tarramiut (Hudson Bay).

NUNAMIUT

At the beginning of the twentieth century, a few Inuit groups or families lived in the interior of the land called Nunamiut in opposition to Sinamiut, the people of the sea. It was recognized that the lives of the people of the interior were more miserable than those of the coastal people. : they did not have dogs, they lacked seal fat for food and light. So why settle there? The testimonies collected tell that the Nunamiut were in general individuals and their families who had to leave the coast forced and forced following some act of violence of which they were either the perpetrators or the victims. The interior was the refuge of people deemed dangerous and therefore ostracized by their community. Some more marginalized simply fled the presence of Whites of whom they were afraid; the heart of the land representing all the advantages of isolation and remoteness. The Nunamiut adopted a way of life closely linked to the migrations of the caribou herds and called themselves the Nallamiut, the people who hunt and stay at the caribou crossings. Between 60 and 80 caribou represented food self-sufficiency for a family of four.

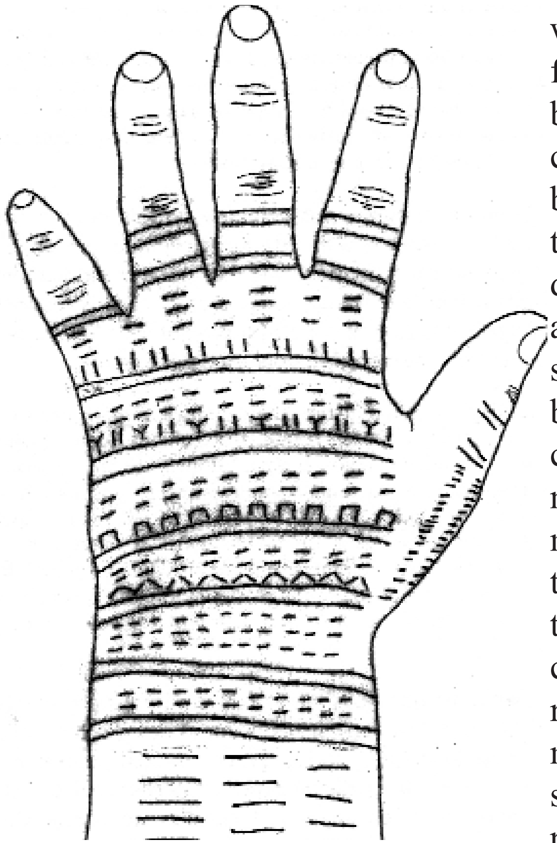
The reason for the absence of dogs is the huge amount of extra food needed to keep them going. It is estimated that 10 caribou per head of dog were necessary for their survival. Nowadays, the majority of the Inuit are coastal (Sinamiut) and frequent inland only to hunt caribou and fish for char, then return to their villages on the sea shore. - Vézinet, 1980, p. 99-106

The book entitled The Inuit way, a guide to Inuit culture (Pauktuutit Inuit Women of Canada, 2006) provides an interesting overview of what the Inuit way of life must have been like before and at the time of their first contact with Europeans. According to this book, the Inuit lived in small family groups, autonomous and nomadic, whose survival and the satisfaction of material needs depended on hunting, fishing and gathering. To survive in their environment, they had to invent unique technologies such as the igloo, kayak, ulu (knife used by women), qulliq (soapstone lamp), fur clothing and head harpoons. detachable. Completely self-sufficient, the Inuit migrated from one place to another according to environmental variations and the annual cycles of availability of terrestrial and marine mammals. They traveled all over the arctic territory. Mobility characterized their way of life. Before the arrival of Europeans, the Inuit were masters of the place. The ancestors of the Inuit, whose culture is similar to that of the Inuppiats (northern Alaska), Katladlits (Greenland) and Yuits (Siberia and western Alaska), arrive 1050 years before our era. The Inuit applied customary law, which was distinguished by its informal nature, flexibility, and the use of social pressure to promote responsible behavior. They had developed a rich material culture from technologies used for hunting and fishing. Traditionally, the Inuit 'worldview', as expressed in their cosmology and spiritual beliefs, was fundamentally based on the recognition that their survival depended totally on animals. Many taboos surrounded various aspects of the life of the Inuit, for whom the natural and supernatural world was explained by a rich mythology. Life for the Inuit in the Ungava region was, for the most part, extremely difficult. Finding enough to eat, whether it was searching for caribou inland or catching seals at the edge of the ice floes, was a daily struggle. In times of scarcity, the Inuit hunted ptarmigan or caught fish, when these resources were available. Their long-term survival, however, depended on the abundance of caribou and seals, two species that allowed them not only to feed themselves, but also to build shelters, clothing and a source of fuel.

INUIT WOMEN (nuliak)

Uumarniyuq, the first woman, is the one who called for war and death so that humanity would avoid total disappearance due to overpopulation on the primordial island. The first woman understood better than anyone that only their dispersal to other lands with limited lifespan could ensure their survival as a species. She made one umiaq per family to disperse them to other lands. In order to soften the disappearance of the being, the ultimate consequence of death, she established a continuity on earth by the reincarnation of the soul-name of the deceased in the body of newborns and in the hereafter, by the survival of the ethereal soul-double of deceased humans. The family is thus declined the husband (ui), the husbands who exchange their wife (aïparerq), the wife (nuliak), the father (atata), the mother (anana), the grandfather (atatatsiarq), the grand- mother (ananatsiark), son (irniq), daughter (paniq), paternal uncle (akka), father's sister (atsak), mother-in-law (arnaksak), stepfather (angutiksaq), brother-in-law (ningau), elder brother (angaju), younger brother (nukaq), namesakes (avvarriik), child named after a relative's name (atsiara). Traditionally, women's activities have been are concentrated in the village, the seasonal camp or in their immediate vicinity. They rarely stray from their home base even if they participate in fishing or gathering activities. While for men, the camp is a point of departure and return for their hunting and fishing activities, for women, the camp is a place of stability. Thus the village, the camp are perceived as a predominantly female space where a strong matriarchy is expressed.

Igluvigaq is therefore synonymous with centrality, a matriarchal concentration that opposes the scope, the dispersion of the male hunter. Thus the word igluvigaq associated with the woman evokes the dwelling as a secure matrix (igloo / uterus) for procreation and the development of the family. This metaphor of the woman-house is linked to the igloo as a place of family warmth, reproduction, birth, education and rejoicing. They are the transformers of the raw materials brought by men, as much as they transform man's sperm into human life, as much as they transform the fruit of human hunting into domestic products. Sexual intercourse during gestation is told as follows : with each intercourse, a dog / penis entered and vomited food to make the fetus grow, hence the importance of frequent sexual relations with the parent. This metaphor comes from the fact that during storms, we used to feed the dogs in the evening, letting their heads pass, one after the other, through the entrance of the igloo. The complementarity between the male / female functions is close : the mother is an igloo / uterus and the father / dog assumes a nourishing function during gestation. Exchange relationships are prohibited since they weaken the fetus by preventing it from forming. In Inuktitut, fetus is called quassaq which means "who will coagulate". Birth with the help of the midwife (sanaji) is essential, it is she who cleans the newborn, cuts the cord with a stone blade and ties the umbilical cord with caribou tendon. These two acts separated the child from the biological mother and tied him to the group. Its role is all the more important as the fetus, which is said to be gifted with will, can change sex just before birth. At that time, it is not yet complete and it is up to the midwife to perfect this creation in particular, by discouraging a change of sex. As we see, a person is not an entity but an assembly of components, a construction which is thus declined in four stages : the blood of the woman (1) coagulates to form the fetus which itself is nourished by the sperm of the man (2), the midwife (3) ends the gestation by checking that the sex of the child is well defined and it is she who finalizes the construction of the person by announcing to him in the form lullabies (aqausiit) evoking in the mode of praise the qualities she would have and the character that would be hers in relation to the soul-name of the deceased (4) chosen; it therefore defines his personality but also his entire network of kinship. Inuit identity is relational identity. After birth, the mother leaves the irniviq (place of birth) and settles in the kinirvik (place of relevailles), a confinement that lasts from five to six weeks. The mother is then accompanied by the midwife or a postmenopausal woman who prepares her meals. It is indeed forbidden for the mother prone to postpartum bleeding to be in contact with raw meat. All caribou skins soiled during childbirth, the skins of birds that were used to clean the child as well as the placenta (arraaq) are buried out of reach of dogs. As soon as the mother was able to have sex again, the first time she was to take the father's semen that was leaking from her vulva and coat the baby's body with it to strengthen it. The absence of children for a couple was a calamity. It was necessary ideally having a daughter to help the mother and a son to help the hunter father. To thwart the sterility of the couple, we then tried a temporary exchange of spouse to increase the chances of procreating if not the adoption was required. The situation of a woman prone to miscarriage is even more dramatic than total sterility. Because of the social ostracism (long period of imprisonment and severe prohibitions) of which she was the object, the woman tended to keep her situation secret.



Moreover, the theme of the battered woman is recurrent in the oral tradition of the Inuit; violence often attributed to the sterile woman. Often the stories begin with a miscarriage hidden from relatives and where the runt is thrown to the dogs which devour it, thus a human soul is reincarnated in a dog. The reincarnated runt found a name (dog), integrated a family (the pack), had a job followed by a long period of summer rest and fed regularly. This is why, according to the information obtained, several women dreamed of being reincarnated as a sled dog. Generally speaking, conditions for women were more difficult than those for men. The making of fur and skin clothes and blankets required young families to chew on the skins to make them softer before being sewn by the older ones. In addition to meals, the making of the kayak, the oumiaq, the summer tent and their maintenance was reserved for women. Seasonal outdoor activities were an opportunity for the women to socialize with each other. Together, they provided for the subsistence of the community by devoting themselves to fishing (arctic char in the river), to collecting the eggs of seagulls, wild geese, shells (mussels) and other molluscs, algae as well as picking berries, willow buds, sorrels as well as a variety of aromatic herbs and medicinal plants. It is recognized that women bring back a variety of food sources more regularly so that hunting large game for men is less profitable than fishing, trapping small game and gathering women but, nevertheless, remains essential, at the very least. additoinal. It was she who also saw to the water supply that she fetched from the stream and in winter carried the icy water on small sleds. Visiting households and celebrating gatherings are an integral part of Inuit culture. They allow you to exchange news, discuss, share a meal and dance together. Children participate in all activities and thus learn ancestral customs. The education of children is shared by all women and adoption between families is widely used. Among the Inuit, some girls (hair cut off) are treated like boys and even smoke pipes, and boys adopt feminine behaviors. These children are dressed like the other and learn the tasks of the opposite sex. Cross-dressing has nothing to do with sexual orientation and surely nothing to do with homosexuality. If the family unit urgently needed a new hunter, then this logic prevailed in matters of learning regardless of the sex of the child. Often, it was also a technique of protection against evil spirits who harassed the child by adopting the gender of the other sex to better disappear. Also the shaman could decree the disguise of a sick child so that bad omen no longer recognize him. Unthinkable therefore to make fun of a transvestite especially since he is under the protection of a cosmic spirit called "the master of the atmosphere". In general among the Inuit of Canada, cross-dressing stops at puberty. The boy had to give up the braids, dress as a hunter and go kill his first big game. At her first menses, the girl would put on feminine clothes, had her face tattooed, and learned the tasks of domestic life and motherhood. In extreme cases, if stopping cross-dressing degenerated into a major identity crisis, it was decided to betroth a young man in cross-dressing to a young woman in cross-dressing so that a new balance could be established. In Nunavut and Nunavik, juvenile cross-dressing often opened the way to a vocation as a shaman and the shaman or shaman straddling the gender boundary was then deemed to be able to cross more easily the boundaries between the spirit worlds and that of humans. Homosexuality among the Inuit was one of the forms of palliative sexuality between men before marriage or between women left alone during long periods of hunting. Traditional songs readily associate the beauty of women to their erogenous zones. The women sing about the beauty of their vulva, their vagina, their buttocks and their breasts. Moreover, ancient sculptures showed, revealed the female body in all its nudity, highlighting the genitals as objects of desire. So many erotic allusions that disappeared with the arrival of the missionaries.

Tattooing was practiced until the beginning of the 20th century. The patterns identified a rite of passage or a specific time in the life cycle such as puberty, marriage, the birth of a child, the death of a parent or a significant event such as illness, murder, accident. of hunting; so many signs that indicated the status and notoriety of a person. Life expectancy being short, age mattered little, and old age was short and rare. Daily violence against women was frequent and women committed infanticide in times of famine still between 1920-1940. In the society induced when the elderly woman had lost all her relatives, she was considered an orphan and had to be taken care of by another family. When her situation became too difficult or the survival of the group was threatened in the event of famine, she could decide to end her life. Such suicide assured him a happy place in the afterlife. As we can see, the Inuit plan their demography through "regulators" : sexual taboos, food taboos, euthanasia, infanticide. Abortion is not practiced. It would be an offense against the natural order. A child is born after being given a soul-name, so in their minds infanticide is only about anonymous people. Since the signing of the James Bay Agreement in 1975, the social role of women has been freed up towards participation in the community organizations created by this agreement. Since the establishment of shops and other service facilities, new professions have appeared. Nowadays, the induced woman can be a cooperative cashier, secretary, teacher, nurse, translator. But she still occupies a central place in the community and in the supraterrestrial universe of the induced cosmogony where she can become woman-bird, woman-mermaid, woman-goddess, woman-stepmother, so many almost limitless phantasmagoric characters of the world. arctic mythological universe. In general, the woman is associated with the terrestrial world, the South, the sun and the summer while the man is associated with the North, the marine world, the moon, the winter.

GENEALOGY

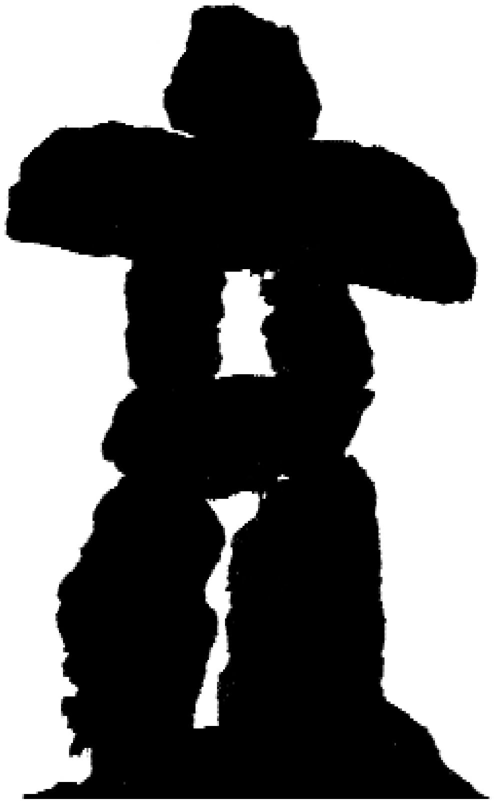
In general, the simple nuclear family (parents, children, a grandparent if widowed or widowed) is the only stable social structure of the group. But, as we can understand, the harshness of the climate, the dangerous nature of the activities on the territory require the base unit to join forces with others to form a network of mutual aid and solidarity. Before sedentarization, the summer camps, which were smaller, brought together directly related families, the fall camps, an intensive hunting season, brought together extended families, and finally the large winter camps brought together several parental lines. The more the difficulties increase, the closer the bonds are between individuals. This is why adoption, which is very common among the Inuit, makes it possible to expand the social network of the adopted or the orphan and the exchange of women between men (aïparerq) builds a parallel kinship as solid as that of blood, the latter must take care of the family of the other in the event of a hard blow. The dynamics of the system tend towards the maximum multiplication of types of partnerships with the aim of always extending the circle of relations of mutual aid and solidarity. The ideal objective, its ultimate goal, is to eliminate any possibility of finding oneself in a position of isolation or without resources where, in the Arctic more than elsewhere, the chances of survival are slim. Among the Inuit, each individual has their own identity, but it is always considered in terms of their relationship with others, dead or alive. The age of reason is quickly reached and everyone then becomes responsible for themselves and must take responsibility for their choices.

Genealogy plays a primordial role in characterizing the relationship that binds him to others and by which his belonging to the group is recognized. Children are named in reference to a person who is most often deceased whose qualities and faults they inherit along with the name. Before the arrival of the missionaries, suicide was a socially accepted loophole especially to get out of a desperate situation like that of an old man who no longer wants to be the responsibility of his family in the event of famine. These beings were therefore respected. Blade of the dead live again in the newborns and his spirit protects them but if it turns out that the chosen name is harmful to the child, it is immediately changed.

Each child receives several names in relation to the social groups that he frequents for example, he receives a name from his group of hunters but of all it is the name of the grandfather or the grandmother which is the strongest from the parental point of view, followed by the name most charged with the supernatural point of view and finally that of vital power. If in a village, several children have the same name, they become de facto linked to each other, which further increases the circle of relationships. With Christianization, the Inuit were given Christian names taken from the Bible for Anglicans and from the catalog of saints for Catholics. After sedentarization, the federal government decided to give surnames to all Inuit, which was done in a certain confusion so that the individual and family relationship set lost its coherence but the solidarity continues because, now assumed by the socio-economic institutions that the Inuit have created for this purpose.

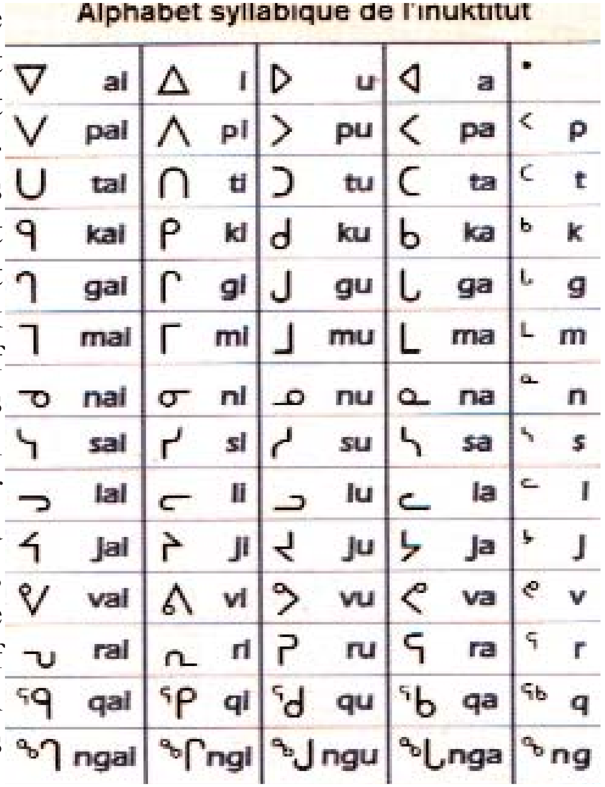
INUKSUK (un) - INUKSUIT (les) - INUNNGUAT (imitation of Inuit)

Whether it is the African tribes, the peoples of Asia, the aborigines of Australia, the Incas and Mayas of South America and closer to us, the Amerindians of the North and the Inuit, all have left in the environment signs, traces of their existence. Inuksuit are towering, human-shaped stone figures that stand tall against the barren horizon of the tundra. Nomadic people, the Inuit erected inuksuit as landmarks to delimit a territory, as signposts to facilitate movement and also served as a food cache (caribou, fish) in the event of survival. During the migration period, the Inuit built basic inunnguat along the tracks to drive caribou back to hunters. These stone imitations of Inuit (inunnguat) frightened the caribou and directed them to the suitable location chosen for slaughter.



INUKTITUT

Language spoken by the Inuit put in syllabic character allowing its writing in 1880 by the Anglican missionary EJ Peck. Inuktitut has a rich vocabulary and a complex structure that dates back thousands of years.). There are five main Inuit dialects in Canada : Inuvialuktun, Inuinnaqtun, Inuttitut and Inuttut grouped under the same language, Inuktitut or Inuttitut. In the last census, 70% of Inuit said they knew the Inuit language and nearly two-thirds said Inuktitut was their mother tongue (first language learned). Inuktitut is used the most in Nunavik and Nunavut; nine out of ten Inuit speak this language. Inuktitut is still the dominant mother tongue today (96%) and used in social activities, hunting and fishing. On the other hand, the language of paid work is English, which gives it a powerful status since it is the language, followed by French, which unites everyone relegating Inuktitut to the private sphere.



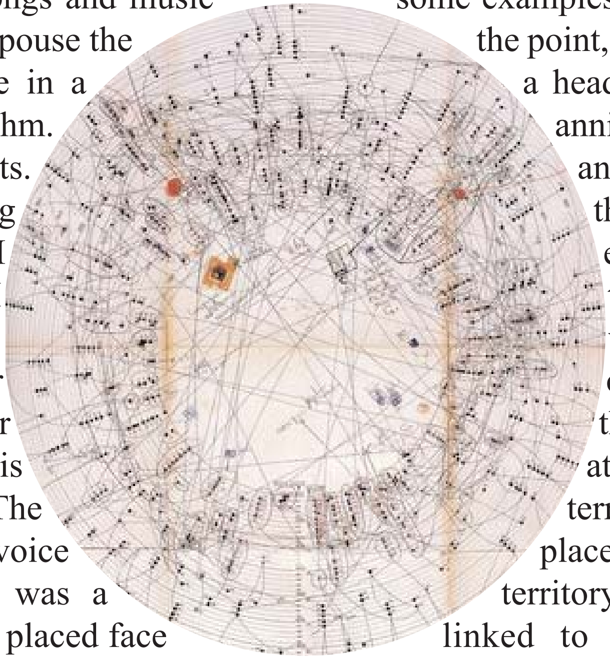
Alphabet syllabique de l'inuktitut

ᐁ	ai	ᐃ	i	ᐅ	u	ᐊ	a	•	
ᐯ	pai	ᐱ	pi	ᐳ	pu	ᐸ	pa	ᑉ	p
ᑌ	tai	ᑎ	ti	ᑐ	tu	ᑕ	ta	ᑦ	t
ᑫ	kai	ᑭ	ki	ᑯ	ku	ᑲ	ka	ᒃ	k
ᒉ	gai	ᒋ	gi	ᒍ	gu	ᒐ	ga	ᒡ	g
ᒣ	mai	ᒥ	mi	ᒧ	mu	ᒪ	ma	ᒻ	m
ᓀ	nai	ᓂ	ni	ᓄ	nu	ᓇ	na	ᓐ	n
ᓭ	sai	ᓯ	si	ᓱ	su	ᓴ	sa	ᔅ	s
ᓓ	lai	ᓕ	li	ᓗ	lu	ᓚ	la	ᓪ	l
ᔦ	jai	ᔨ	ji	ᔪ	ju	ᔭ	ja	ᔾ	j
ᕓ	vai	ᕕ	vi	ᕗ	vu	ᕙ	va	ᕝ	v
ᕃ	rai	ᕆ	ri	ᕈ	ru	ᕋ	ra	ᕐ	r
ᙯ	qai	ᕿ	qi	ᖁ	qu	ᖃ	qa	ᖅ	q
ᙰ	ngai	ᖏ	ngi	ᖑ	ngu	ᖓ	nga	ᖕ	ng

It should be noted that even if the Inuit mostly listen to the radio in Inuktitut, most watch on average (5.5 hours per day) English television programs. Even so, teaching Inuktitut from kindergarten to the end of high school has shown a marked increase in self-esteem when children learn in their native language. The suffix miut indicates the place where one lives; example Montrealmiut, Parismiut, Londonmiut or Newyorkmiut. Krom Valentina, Keleutak Harriet, Quumaluk Qiallak,

SONG OF GORGE (katajjak)

A wide range of guttural vocal performances is used to express derision, duels and even lullabies. Traditional songs and music seem monotonous and repetitive to us, yet they espouse the same model as indigenous thought. They move in a circle, according to rules and a very precise rhythm. They stop, breathe, then start again like heartbeats. So said an old Inuit singer : "You think my song always says the same thing… but each time I completed a sequence, I added a little more. I change my song ". This singer explains that his song follows the unpredictability of the circular rhythm where geese, salmon, caribou reappear regularly but they are never the same ; each cycle is different, no two springs will ever be the same. The sounds emerge deep from the throat which the voice transforms into song. Initially, throat singing was a competitive game played mainly by women who, placed face to face, had to emit strange sounds and a particular song in order to make the other laugh. It is an unusual competition since we lose while laughing. Nowadays, under the influence of southern missionaries, many Inuit are learning biblical gospel singing.



INUIT TOPONYMY

The territory is born once named. Thus for the Inuit, the designated places have one or more identities relating to the environment or space, but above all, the toponym indicates the influence of the Inuit on the territory. Previously anonymous, the birth certificate of a place is its baptism by men. By the power of words alone, man transforms a neutral area into a humanized environment and because it can be passed on from generation to generation, the toponym becomes part of the heritage of humanity as a guide used to move around the surface of the earth. In Inuit culture, the toponym and the oral tradition of stories are the keepers of memory, the anchors that fix in memory the usual use of the place, the presence of an inuksuk, an incident, a strong emotion, the name of a deceased shaman, an anomaly in the landscape, significant geographical features (lakes, rivers, bay, strait), a gathering point for game, a place of celebration or burial. Here are some examples : hingilik = the place that has a cape, nuvuk = the point, qurluq = the fall, niaquqtalik = the place that has a head, nauyaan = the nesting place of the seagulls, annialik = the place where there is has arctic char, anarvik = the place where we defecate, iluvilik = the place where there are graves, mannik = the eggs, tuktutuuq = where the caribou are, nilak = the mouth of a river , alliyarvik = the place where someone broke their sled, uhuilaq = the cut penis, unguarvik = the place where they lived through hard times., inukturvik = place where we ate humans. The women name the immediate territory of the camp and the practical use of the places while the man has a global knowledge of the territory, a more elaborate geographical knowledge linked to his frequent and long journeys. But this geographical knowledge is endangered by the sedentarization which has led to a profound modification of the activities and rhythms of daily life which has become routine. It is no longer the meteorological conditions that punctuated the hunter's life that are essential but the schedules of women's office. Today's adolescents perceive the territory above all as a space of leisure and rarely move away more than 30 km from the village because they fear the blizzard, unable to analyze the warning signs of a sudden change in temperature.

The more the practice in the field decreases, the more toponymic knowledge becomes blurred. The territory loses its coherence, the more names are forgotten, the more the territory atrophies, the bond of unity between man and his environment is in danger, giving free rein to the exploitation of the territory by the Qallunaat. COLLIGNON, 1996, p. 105-106, 192-193

INUIT ARCHEOLOGY

Traditionally, the Inuit live along the coasts; it is therefore not surprising that the majority of Inuit, Thule and Palaeo-Eskimo archaeological sites are found near the sea. However, a few sites have also been identified inland, probably due to seasonal movements in the aim to acquire raw materials, for caribou hunting or for trapping. Thus, two Inuit sites have been identified on the banks of the George River: one near its mouth and another on Ford Island. The rare rock art sites discovered in the Canadian Arctic are all located in the Kangirsujuaq region, on Qikirtaaluk Island in Nunavik. There are petroglyphs representing exclusively faces seen from the front, with human, animal or hybrid features. These representations are attributed to the culture of Dorset, which inhabited the Arctic between 500 BC. AD and 1500 AD. The faces that can be found on rock art sites also resemble masks carved by the Dorsets. Among the sites listed to date, the most important is undoubtedly that of Qajartalik, located near the village of Kangirsujuaq in the northeast of the island. There are more than 170 faces that were carved into an outcrop of soapstone (soapstone) around 1,500 years ago. Most of the faces are symmetrical. Some of them have feline features and horns. These representations probably had a spiritual connotation for the Dorset people. Unfortunately, the Qajartalik petroglyphs have been vandalized on several occasions. The identified archaeological sites of Native American origin are found on the shores of the George River and its tributaries. These are historic Native American (Naskapi) and prehistoric (Naskapi and archaic) sites. Among these, the Mushuau Nipi, or lake of the Hutte Sauvage, is considered a site of major importance in northern Amerindian prehistory. Important sites : * The Torngat Mountains contain several archaeological sites. * Archaeological site not far from the village of Kangirsuq where the foundations of a longhouse are found, believed to be the remains of Vikings who would have probably stayed in the region in the 11th century. * Tursujuq National Park : Archaeological research has uncovered more than 58 predominantly Inuit occupation sites, only four of these sites are Cree and one shows the ruins of a former trading post. * Inukjuak located on the north shore of the Innuksuac River is known for its many archaeological sites. * Archaeological research has made it possible to date the arrival at the Ivujivik site of Inuit from Baffin Island to nearly 3,000 years. * Kuujjuarapik, archaeological research would place between 600 and 800 years the age of the remains of human occupation of the places. * Quaqtaq, occupied, according to recent archaeological excavations, by various peoples for 3500 years. * Objects found on Qikirtaq Island during archaeological excavations at three sites (Keataina, Tyara, Toonoo) attest that the Dorset people occupied the region from 800 BC to 1000 AD. The miniature Sugluk mask, a 2cm ivory sculpture found at the Tyara site, is believed to date from 400 BC

CANNIBALISM

Territory of the Extreme, the Arctic is also the place of borderline behavior like that of Ataguttaaluk nicknamed the "queen of Igloolik" by the Qallunaats who became a famous shaman who survived the famine of 1905-1906 by eating her husband, her children. and his companions in the camps who died of hunger. Since then, the term Inukturvik (place where we ate humans) is commonly used by the Inuit to designate Igloolik, place of the tragedy. Those who ate humans (niqiturniq) were subject to severe food prohibitions ; one had to eat apart from well-cooked foods and never consume polar bear meat which tastes the same as human flesh, refrain from all sexual intercourse and avoid contact with others, their weapons and tools . Only prepubescent children and postmenopausal women served as intermediaries. After her cannibalistic adventure, the great shaman Iktuksarjuat performed for several months the propitiatory rite agreed upon to appease the souls of the dead whom she had consumed. She then married the one who became the "King of Igloolik", one of the main chiefs of the region. The year following Ataguttaaluk's remarriage was rich in birth in the community and she herself also found herself pregnant, a sign that the spirits had forgiven. For ten years, she gave up for adoption to grieving families her newborns as blood debts thus creating with her creditors relations of qiturngaqatigiit (those who have a child in common) and also of nuliksariit (those whose children are promised in marriage.). All the children of Ataguttaaluk received the names of the victims who once saved his life, thus respecting the custom of satisfying the souls of the deceased by giving their names back to the first children born into their family to restore the broken balance of the group. . His extraordinary adventure out of the ordinary strengthened his shamanic powers and commanded respect mixed with fear. Become a myth during his lifetime, his story was passed on from generation to generation through the abundant descendants resulting from his remarriage with Iktuksarjuat. After the death of the survivor, her name was given to many babies, born that year. In 1960, the Igloolik school complex was named in his honor and in 2004, 100 years after his act of survival, more than a hundred of Ataguttaaluk's descendants came to Inukturvik to pay homage to him. Another lived story of transgression of cannibalism in order to respect the line took place in Nunavik where the inhabitants of the village of Kangiqsualujjuaq keep in memory of an ancestor who sacrificed himself to ensure the survival of his descendants. On their way to Labrador, a family found themselves at the end of their food reserve. The grandmother convinced her family to let her die and then eat her to ensure their survival. She promised them that if they honored her wish, they would have prolific offspring. In the mid-1960s, there were more than 300 Inuit from this grandmother who sacrificed herself for her family.

INUIT RUPEST PALEO

QAJARTALIK

Qajartalik is a rock site located in the Hudson Strait in the marine region of Nunavik (northern Quebec). There are more than 180 engravings of faces with human features including, in some cases, animal attributes. These petroglyphs are mainly distributed over two large outcrops of soapstone commonly called "soapstone". It is an ancient place where the images were engraved by the Dorsets who inhabited the Arctic before the Thule-Inuit. However, since its discovery, Qajartalik has become of great cultural interest to the Inuit of the village of Kangiqsujuaq who today consider themselves the guardians of this place.

Qajartalik, a term in the Inuktitut language, means "the place where there is a kayak". Although this craft is not pictured on the rocks, the oval, hollow geological formation where the site is found may have inspired its name.

KAYAK

Multi-functional boat used for harpoon hunting (seal or beluga), for setting nets, for killing caribou at fords. Its light and sharp structure is covered with shaved, stretched and sewn sealskins. The kayak is designed in the image of a vertebrate body : it has a spine (the keel) to which the ribs are attached (the planks) and a male sex (the bow called isuujaq = which looks like a penis). The sternum of the caribou which turns into the bow of the kayak is called uirniq, (which climbs on) built on the root iuk (husband) and which thus designates the front and elevated part of the kayak and the dog sled, the main identity signs of the male outfitter and hunter. Usually the frame of the kayak is made of driftwood, whalebone and antler, then stretched sealskins formed the outer skin. The whole thing was finally put together using sealskin thongs and caribou sinews. To prevent sand or pebbles from piercing the coating, old seal or caribou skins covered the interior wall. The long paddle with blade at each end is made of wood. With a length of 6.5 m and 0.75 m at its widest point, this boat was strong enough to carry an adult hunter and the seal he had just killed. The oumiak is a large boat used for the transhumance of a family and all its belongings between the summer and winter camps if necessary. As it was the women who paddled it was called "the women's boat" which carried tents, clothing, kitchen utensils, tools, guns and even dogs.

The Qajartalik site is located in the Hudson Strait on Qikertaaluk Island, off Whitley Bay. The petroglyphs are located in a long granite depression, intersected by veins of soapstone, which forms a basin stretching over a length of about 30 meters. The landscape of the herbaceous tundra in northern Nunavik is presented in the form of large expanses of mosses, lichens, grasses and flowering plants as well as rocky outcrops interspersed with countless lakes and rivers crisscrossing vast plains. , valleys and hills.

Dorset, Thule, Inuit

Qajartalik is an old quarry that was frequented by different peoples who exploited soapstone there to make useful objects such as oil lamps and cooking pots. The site was also used for the production of petroglyphs, images carved in stone. Dorset culture (550 BCE - 950 CE) was widespread in the Canadian Arctic. These hunter-fishermen-gatherers nomads subsisted mainly on marine mammals, such as seals and walruses.

The Dorset people are particularly known for their movable art, that is to say small sculptures of animals, amulets or objects associated with shamanism, such as masquettes and miniature figurines in ivory and driftwood.

Around 1150 CE, the Dorset culture died out. Although opinions on the reason for this disappearance are divided, it has been suggested that the disappearance of the Dorsets follows global warming that may have disrupted their livelihood. It was around this time that the Thule-Inuit migrated from the west to the eastern Arctic. In oral tradition, the Inuit refer to the Dorset by using the term "Tuniit".

The Thule culture developed in Northwestern Alaska about 1,000 years ago and then migrated to the Canadian Arctic. It was during the 13th century AD that Thule-Inuit groups arrived in Nunavik. They are the direct ancestors of the Inuit today.

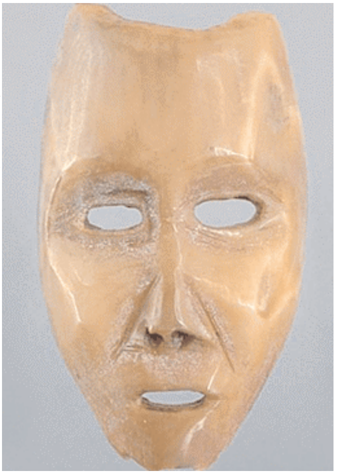
Thule people are hunters of large marine mammals, such as the bowhead whale. Depending on the availability of resources, they moved constantly on the territory by establishing camps for more or less long periods, while maintaining great mobility thanks to the kayak, the umiaq (large boat covered with sealskins) and the sled pulled by dogs.

We do not know the precise age of the petroglyphs in Qajartalik, but they are associated with the Dorset, because of their state of preservation and because they stylistically resemble their movable art. Thus, these images could be more or less a thousand years old.

The 180 faces of Qajartalik

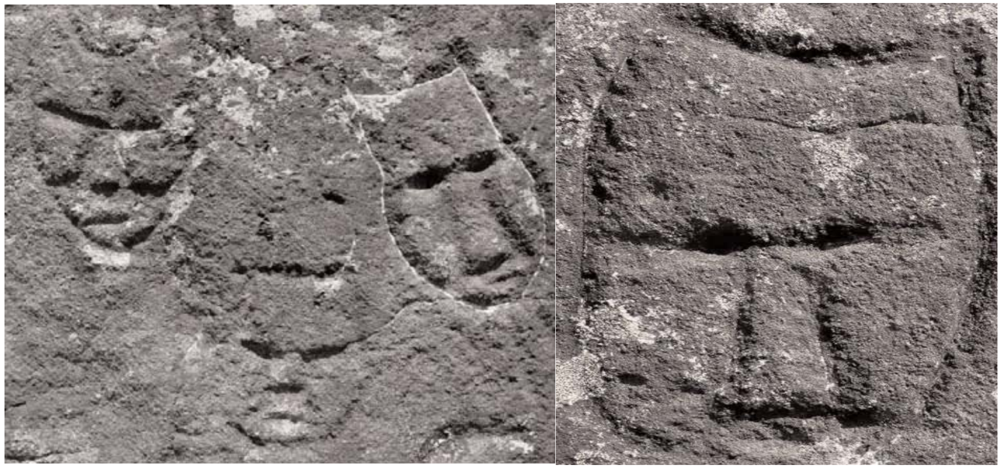
Around 180 engravings of faces have been identified in Qajartalik. Always represented from the front, they generally measure between 10 and 30 cm, although we find some measuring approximately 3 cm as well as some 60 cm. The width and depth of the stripes vary from approximately 1 cm to a few millimeters. These faces have sometimes anthropo-zoomorphic human features. Some hybrid images combine human features with elements that resemble horns or pointy ears. Some depictions are engraved with lines on the chin that may suggest tattoos while others appear to have swollen cheeks and half-open mouths, which could represent the act of blowing, singing, or even speaking. Although some engravings are isolated, the majority are part of groups of up to ten figures.

Schematic faces similar to those of Qajartalik were found engraved alone or in groups on portions of caribou antler, walrus ivory or bone as well as on rare wooden masks. These were probably used by shamans during rites.



Stylistic comparisons between petroglyphs and movable art objects seem to indicate that these images were engraved towards the end of Dorset culture. It was a period characterized by great cultural stress. Climatic changes affected the presence of game while the Thule people gradually settled on Dorset territory. It is possible that an increase in shamanic activities and the production of engravings associated with them may have helped cope with these changes.

The engraved faces could also refer to the ancestors or represent the desire to mark the presence of the Dorsetians in the landscape. In connection with the activity of extracting the raw material, it could also be a symbolic gesture of bartering with the spirits: an engraving in exchange for the material useful for the manufacture of a lamp or a container. Interpreted above all in a shamanic context, these faces could also represent the different stages of transformation from human to animal.


Les cornes arrondies

ASTRONOMY

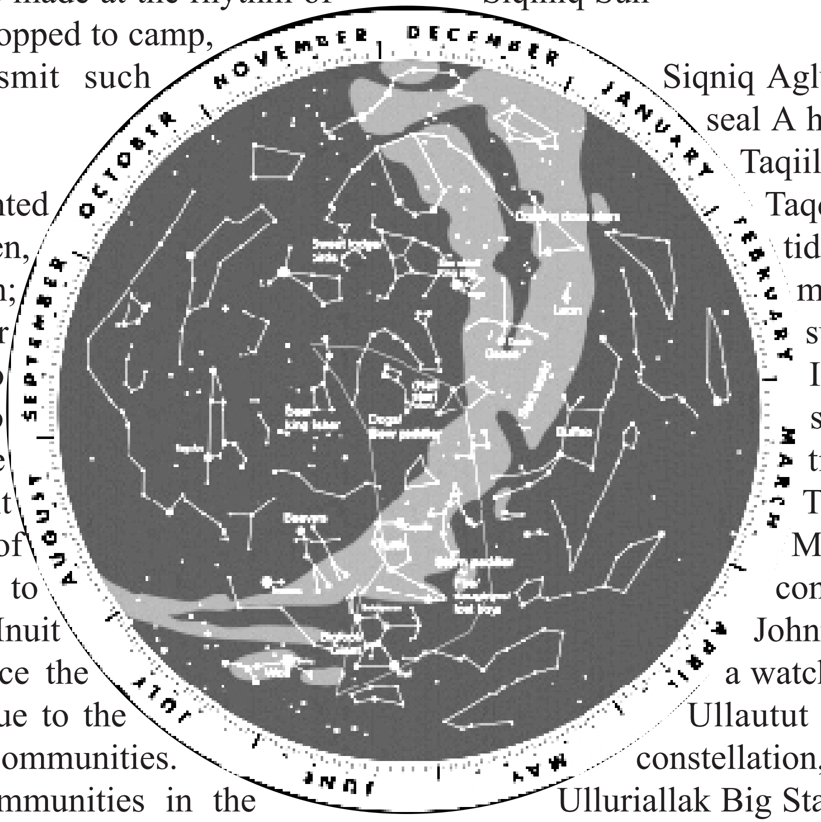
The stars were very important for the Inuit, as for all hunting peoples. The time was calculated according to the predictable movements of the familiar celestial bodies: the stars, the sun and the moon. The trajectory of these two celestial luminaries and the parallel of the stars constitute for the Inuit the symbol of the cosmic order underlined by great rituals, in particular rites of passage. Each year during the polar winter the full moon between November and February moved in the sky without ever setting with a trajectory symmetrical to that of the summer midnight sun but reversed; we will therefore speak of a midday full moon. C is at this point that Inuit organized ritual celebrations that gave tivaajut places multiple tournaments throat singing and joint exchanges to boost the cosmic cycles and those of earthly life to the spring revival. To this end, each had to imitate the cry of the bird whose remains had been used to clean it at birth. Several myths narrate the origin of human and animal constellations. One of the most exemplary is that of ullaktut, the bear hunters : on a moonless night, a bear was seen near an encampment, hunters immediately set off in pursuit in dogsled. Suddenly, as soon as the hunters scampered off the dogs to stop the bear, the latter, the dogs and the hunters gradually rose into the sky. The dogs became the Pleiades (sakiattiat) who surround the bear (nanurjuk - Alcyone) while the hunters form ullaktut (those who run) the Orion Harness. An old dog in the team, slower than the others, he remained halfway between the hunters and the bear; it is kajurjuk (Aldebaran). The mythical astronomical history of the Inuit can be seen as a long process of differentiation, into opposing, antagonistic and complementary elements (see mythology). This process begins with the differentiation of the sexes (Sister-Sun and Brother-Moon), it is followed by that of day (crow) and night (fox), of the dead (the soul-double) and of the living (l 'soul-name), war and peace. Sila constitutes its dynamic principle, through the oppositions good weather (nigiiq-feminine-south-east wind) and bad weather (Unnaq-masculine-wind North West). A total solar eclipse is a dramatic event because the Inuit feared the shaking of the pillars of the Earth and the destruction of the world, an allusion to Brother-Moon's incestuous passion for Sister-Sun.

Thus the order of Sila, source of renewal of cosmic and vital cycles, was threatened by the repetition of incest, the eclipse of which is the heralding sign. Today, traditional Inuit star knowledge and star-related traditions are rapidly disappearing in communities across the Arctic. Nunavik is no exception. Many other factors hinder the transmission of traditional Inuit knowledge from one generation to the next. The conditions conducive to learning the stars, in particular, simply no longer exist. The long trips which were made at the rhythm of the sled dogs, during which the Inuit stopped to camp, offered ideal opportunities to transmit such knowledge well.

Elders remember that their father pointed out the stars to them when, as children, they sat down next to him in the sleigh; others remember their mother explaining the wonders of the sky to them while they waited for the men to finish building the igloo to spend the night. The trips made by today's Inuit hunters by snowmobile, the antithesis of trips by dog sled, leave little time to admire the stars. In addition, a few Inuit Elders noted that they no longer notice the stars as much as they did in winter due to the glare caused by night lighting in communities. "Light pollution" now affects all communities in the Canadian Arctic. The main stars of the Inuit women :

Aagjuuk Two stars The two largest stars in the constellation of the Eagle (Aquila), namely Altaïr and Tarazed. In the vicinity of Kangiqsualujjuaq, the Inuit used these stars to navigate when they drifted on sea ice during the seal hunt.

Angmaluktuq Round, circular Full moon.
Aqsarniit Northern Lights



Pulamalangajuq Cover with a blanket Eclipse of the sun or the moon
Quturjuk Clavicles A combination of the following stars: Capella and Menkalinan (constellation Coachman, Auriga), and Pollux and Castor (constellation Gemini, Gemini)
Sakiatsiak Sternum - The Pleiades (constellation Taurus, Taurus)
Singuuriq Pulsation, which enlarges and shrinks The star Sirius (constellation Canis Major, Canis Major)
Siqiniq Sun

Siqniq Agluatuq Hole of aglu, literally air hole of the seal A halo around the sun
Taqiilaq Without moon New moon
Taqqiq Moon The influence of the moon on the tides, particularly the full moon and new moon, was well understood. The period surrounding the full moon was known as Ingaqaniqtumarik, a name that refers to the strong tidal currents that occur during this time.
Tuktujuk Caribou - The Big Dipper (Ursa Major). The polar star. The Inuit used this constellation. to tell the time. According to Johnny George Annanack, it was "as reliable as a watch".
Ullautut Sleigh Skates, Orion's Belt (Hunter constellation, Orion)
Ulluriallak Big Star - Probably the planet Venus
Chasseur, Orion)
Ulluriallak Big Star - Probably the planet Venus

INUIT CALENDAR - SEASONS - MONTHS

The Inuit distinguish six seasons. First, there is upingaassak, (spring material) the period that announces spring, a season of turbulence with its many snowstorms and blizzards. The days begin to lengthen, the ice floes come alive, the ringed seals begin to give birth near the ventilation holes while the polar bears sniff their noses in the wind to sense the movement of whitecoats and teach their hunters. small. Lemmings have their litter in their nest buried in the snow, foxes are on the prowl. Caribou leave the forests at the edge of the tree line to migrate to the tundra bringing the wolves with them. Then comes upingaak, spring. The sun is falling on the pack ice which is breaking up into pieces of ice, the future beds of walruses. The meltwater trickles down and creates a ferment of green and blue on the surface of the sea ice. Mice and lemmings are no longer safe, in addition to foxes, hawks, owls, owls hunt them relentlessly day and day. night. Migratory birds (eiders, geese, geese, loons, terns, gulls, etc.) appear by the hundreds of thousands to occupy their nesting site on the tundra, in the cliffs and on the shores.

The flowers and herbs burst into an explosion of life; suddenly there appear swarms of mosquitoes which reproduce and move constantly. Ptarmigan, lemmings, stoats, hares, weasels begin their moult, narwhals, bowhead whales and beluga whales swim along channels filled with krills which invade by the hundreds of millions the arctic waters of which they will gorge themselves. Aujak, summer, is a time of plenty. All animal species gorge themselves all day long, constituting their reserve of fat and energy, especially for migratory species with a view to their return to the South. Aujak is also a period of intensive education for newborns who must learn in record time to feed and fight predators. Several birds like the goose are in full moult and cannot fly to the happiness of the foxes. The wet tundra is dotted with scarlet-colored berries. On the other hand, Inuit villages like Salluit are suffering the harmful consequences of the melting permafrost due to global warming. At the end of the summer, the arctic char leave the sea to return to the fresh water of lakes and rivers, spawning grounds. Then came ukiassak, autumn, literally "material for the little winter", therefore a period of preparation for the cold. The grasses are withering, the berries have been picked, the insects are disappearing, the temperatures are dropping, the ice is forming, the fur or winter plumage is thickening, the ptarmigan, wolves and foxes turn white, the rutting season ends, geese, barnacles, eiders form gigantic sailboats and head south, lemmings return to their burrows, the northern lights illuminate the sky, the night grows longer, all the equipment for the little winter is in place finally ready to welcome ukiak, the little winter. Billions of flakes (qaniq) cover the ground while the sea ice reform under the action of strong winds and powerful tides. Females of polar bears return to their lair to give birth and hibernate in safety like weasels, gophers, lemmings in their burrows while char and lake trout swim in the temperate waters at the bottom of the lakes. Suddenly time seems to stand still, arctic night sets in, here is ukiuk in the middle of winter. The extreme cold already makes some victims quickly recovered by the scavengers. Seals with their long claws scratch the ice floes and maintain their ventilation holes, packs of wolves pursue herds of caribou and muskoxen while foxes dig up their winter provisions of buried lemmings and eggs instead. in the year to survive the famine often present in this period of polar cold.

The days get longer and longer and announce the upingaassak, a new cycle begins with the month of March (ikkiakparmi - the sun rises), followed by April (birth of baby seals), May (netchialervi - young seals go to sea), June (kavarirvi - seals bask in the sun or norerwik - the little caribou is born), July (noerivi - caribou have their first antlers or ichyavi or itavik - bird nesting), August (itavik aipa - birds lose their down), September (amerairui - southern migration of caribou or amerasoukapa - females lose their antlers), October (ukighapaipa - early winter), November (akaaiarivi - reserve of meat for the Inuit), December (kikkerlinium - the sun disappears or ubluilaut - no day or dawn), January (kaprida - it's cold), February (hikkernaum - return of the sun)

INUIT COSMOLOGY

In the beginning, there was no day, neither death, nor war. There were no seasons either, no light, no ice on the sea, no storms, no thunderstorms, no lightning, no winds. Suddenly from the earth, deprived of all inhabitants, thanks to the cosmic force (Sila), the mounds of earth (niaquqtaak) and peat resurface human life in the form of two Inuit males : Uumarnituq and Aakulujjuusi. The first was taken as a wife by the second and fell pregnant, his belly protruding. When he was about to give birth, seeing that there was no way out, his companion composed an irinaliuti (magic song = shamanic act) and now the penis splits in two and a baby came out. Then appeared the crow who wanted daylight to find his food and the fox who prefers the night to hunt. The alternation of day and night was then created. Inuit cosmology therefore takes place in the image of gestation which begins with uterine life in darkness and fusion with the maternal body (mother earth) and ends when the child is born. Since that day the cycle of human life as the seasonal cycle of Mother Earth agree with the meaning of the Sila of the Universe

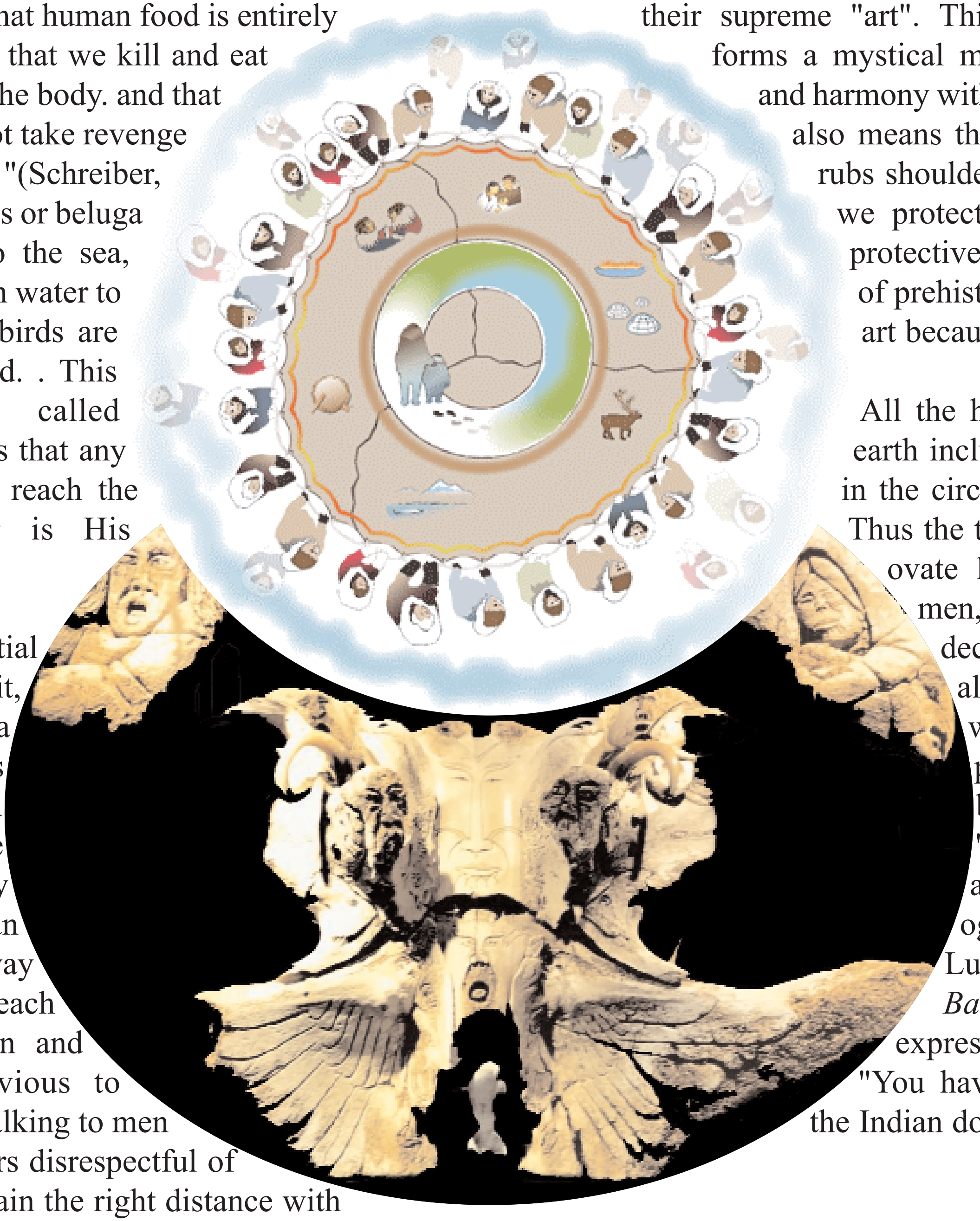
The theory of the Inuit soul and of reincarnation can be summed up as follows : each person has, during his lifetime, a double-soul (tarniq), a miniature image of the person, encapsulated in an air bubble (pudlaq) and housed on the groin side; it also has a soul / name (atiq), a psychic principle inherited from a mind which includes the sum of the experiences and capacities accumulated by all those who previously bore a name. When someone dies, their soul / double escapes from the bubble and resumes the size of the person they are a replica of. She will prowl around the burial ground until the soul / name manages to reincarnate. To do so, the soul / name of the deceased needs the woman he wants to enter to leave his home to go urinate and, in doing so, open a passage for him. The wish expressed by the soul has an immediate incentive effect and causes in the woman an urgent need to urinate. The female crotch becomes an entrance for the soul and an exit for the fetus. Once accomplished, the soul / double goes to live in the hereafter while the soul / name relives in a fetus and therefore enters a new cycle of human life.

INDIGENOUS SPIRITUALITY

The Universe as a thought / word, is a poietics which materialized by combining with materials in order to form a visual poem of shapes, colors, sensations; the Universe is like a poem which creates its own verbi-voco-visual language according to the archaic Tradition of the first peoples. To the material beauty of the forms is juxtaposed that no less mysterious and immaterial of the Breath, of the Word, of the Word as expressed by Inuit throat chants and other universal shamanist chants at the origin of "In the beginning was the Word" of the Bible. In the Universe of shamanism, a unique order connects the human to the cosmic world via the "golden pillar" a kind of interconnection between the natural living and the supernatural beings. Nature, man, objects are all part of the sacred dimension of Earth and Heaven. Archaic traditions all live in space, there is no such thing as linear time, everything is cyclical. In the world of the Origins, nature is not a symbol of spiritual realities, it is "the" spirituality.

"In short, the sacred is an element of the structure of consciousness and not a stage in the history of this consciousness. At the most archaic levels of culture, living as a human being is in itself a religious act, because food, sex and work have a sacramental value ".

The world is a cathedral and all living beings, humans, animals, plants and even all "inert" matter - sacred mountains - are bearers of souls. Of shamanistic inspiration, Amerindian and Inuit cosmology, too, conceive of the presence of the Spirit (Isuma) in all natural forms and beyond all forms. In the native world, there is no place for the layman. All of life is sacred and this undoubtedly explains why no precise term does not translate the idea of religion as we know it. They don't need God, they don't name him. They are not theologians who study the divine because they are the divine, are an integral part of it.



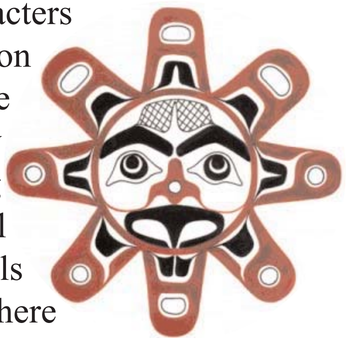
The Inuit had the greatest respect for the living world (nuna). Like all native hunters, they believe that the very act of hunting and killing for food is part of a powerful religious ritual. "The greatest danger to life," said an Inuk from Igluit, "is that human food is entirely made up of souls. All the animals that we kill and eat have souls that do not perish with the body. and that we must appease so that they do not take revenge for what we took their bodies "(Schreiber, 1980). This is why a piece of walrus or beluga liver is always thrown back into the sea, whether the dead seal is given fresh water to drink or whether the feathers of birds are planted in the snow or the ground. . This form of spirituality also called "polysynthetism" (Schuon) implies that any creature, as a starting point, can reach the Great Spirit since everything is His mysterious manifestation. .

The notion of respect is also essential in Inuit culture because for the Inuit, a lack of respect for an animal or a human can lead to difficulties during the next hunts. The term qikkutik also corresponds to the shame or regret that a person may feel if they have disrespected an animal. The time is not so far away when men and animals talked to each other. The alliance between men and plants, air and water was obvious to everyone. Animals have stopped talking to men following the clumsiness of hunters disrespectful of rites or women who did not maintain the right distance with the animal world, thus creating monsters, dwarves, giants, mutants: the tupilaks . For them, their greatest fear comes from the certainty that failure to respect the rules of nature leads to the disappearance of human beings or their return to the animal stage. As with most other indigenous societies, they considered living in harmony with nature their supreme "art". This mystery confers on natural forms a mystical meaning which associates order and harmony with the beauty that it generates but also means that a formidable spiritual world rubs shoulders with human life from which we protect ourselves by the creation of protective amulets. This is why the Inuit of prehistoric times never had a word for art because they did not need it.

All the harmony of the cosmos, of the earth including all the living is inscribed in the circle perfect form generating life. Thus the tents, the igloos, the hearths are ovate like the fertile egg. The wise men, gathered to make important decisions, sit in a circle. In a circle, all are equal then can only hatch wisdom, truth, justice, a philosophy very well articulated by the term miyupimaatisiium: "to be well in one's life". The ancestral words of Black Elk, oglada shaman, as told by TC Mc Luhan in *Barefoot on the sacred ground,* expresses this point of view well: "You have noticed that everything that the Indian does is in a circle.

This is so because the power of the universe also works in circles and everything tends to be round. (…) The sky is round and I have heard that the earth is round like a ball and all the stars too. When the wind blows at its strongest, it forms eddies. Birds make their nests. in a circle because they have the same religion as us. The sun rises in a circle and sets the same. The moon does the same and both are round - Even the changing of the seasons forms a large circle and always returns to its point of The life of human beings describes a circle - from infancy to childhood - and so does everything that is animated by the force of the world. Our teepees were as round as birds' nests and they were always planted in a circle, the Ring of the Nation, a nest made up of many nests where, according to the will of the Great Es took, our children were born ". The circle is the symbol of a philosophy which advocates the integrity of a way of life whose qualities have been proven by hundreds of generations; while the loss of the circle is a tragedy of the loss of social behavior of members of a tribe or village.

MYTHOLOGIES (the)



Inuit mythologies and legends have come down to us thanks to tales and sculpture dominated by themes and characters from the spiritual life. The fundamental notion of Inuit mythology is that of balance; balance between winter and summer, between day and night, between life and death, everything is animated, everything has a soul. Mythical accounts show that the creation of animals paralleled the construction of humanity. There was little difference between them since they shared the same faculties and understood each other. They forged strong and intimate bonds through marriage and adoption. Due to too strong demography, the ancestral islands, cradle of beings, risked to sink, the beings, to disappear. This is how the differentiation grew, each asserting itself as a separate category; to maintain balance, the Inuk will become a hunter and the animals will become game. Sila is the personification of the universal order. On earth, it constitutes the air breathed by men and animals and constitutes a link between them commanding respect for the rules of life, the good intelligence necessary to maintain good relations between spirits, humans and animals. He is feared because, if he is upset, the unleashing of his elements leads to famine and death. Inuusiq is intimately linked to the body. It is the vital principle common to all material entities. This vitality manifests itself in humans and animals through blood, bodily secretions including semen, body heat and breath. Unlike Inuusiq, whose vital principle animates the body and disappears with it on death, here is Tarniq, invisible and immortal component (the soul), which can choose a new animal or human bodily envelope. Mythical stories exist to remind us that the cosmic balance in which man participates is fragile and that all transformations in one of the spheres affect the others since they are interpenetrating. Among the founding stories, there is the story of Aningaq (Brother-Moon), the man who commits incest with his sister. Shamed, they flee into the sky with torches to guide them. The brother rises faster, his torch goes out and he becomes the moon. His sister passes him and continues on her way and his torch becomes the sun. Since that day, moon and sun have been irreparably separated stars. The moon, which is also the Inuit paradise, is masculine and the sun feminine. With this myth of Sister-Sun (Siqiniq) and Brother-Moon, begins a new stage of Inuit cosmogenesis, that of strengthening the great rules of role-sharing establishing human society, regulating the prohibition of incest, founding matrimonial exchange, obligation of parental solidarity and the care of widows and orphans, rule of the sharing of game.

Sedna is "indweller" or "Numen" - She is a cultural imagination of good relation with nature, she is neither a goddess nor a divinity. Sedna represents an important part of Inuit cosmology - an explanation of the relationship between humans and nature. Sedna, as an inhabitant or numen, is a concept similar to the scientific concept of gravity, just as sila is like the scientific concept of climatic force

Any breach of the rules leads to reprisals, as the story of Sedna tells us. "The woman from below at the bottom of the sea" Sedna, is a sea goddess of incredible power since it is she who controls the hunting of marine animals. According to legend, Sedna marries a dog, then a bird, the terrible northern fulmar which makes her very unhappy. She flees with her father, but her furious husband turns into a storm so devastating that he has to throw her into the sea since the boat is in danger of sinking. As she tries to grab hold of and capsize the boat, her father is forced to cut off her ten fingers which turn into seals, walruses, whales, narwhals, beluga whales. From now on, Sedna distributes the riches of the sea to the men who deserve it.

His largesse ceases if men break certain rules. She then retains all marine mammals in the form of lice intermingled in her hair. In this case, only the shaman can intercede for her to forgive and the marine life to return. As she has no more hands and is blind, she is unable to untangle her hair, so it is up to the shaman to visit her, to plead the cause of humans, to seduce her by stroking her hair and, when painting them, free lice / marine mammals. Thus, in everyday reality, young boys are prohibited from looking at women when combing their hair. Mutual delousing was a common practice among the Inuit during the days when fur skins were the main material for clothing. This delousing was even part of the amorous approach. A young woman could quite often be seen grooming a young man's hair as a gesture of affection.

Sedna, as a mortal daughter, was self-determined in that she resisted her father's expectations; she made her own choices about who she would marry and where she would live. Sedna's father represents an unbalanced relationship with nature. His actions were irresponsible and unnatural. He did not show respect for the soul, which is a central ethic for Inuit hunters. He chose to save his life by throwing his daughter overboard in the icy arctic water, then chopping off her fingers as she clung to the side of his kayak.

Sedna remained at the bottom of the sea but she avenged her father's unethical behavior in order to restore justice and balance. Sedna's transformation from human female to seafarer was consistent with her ability to merge with other life forms (i.e. Dogs, fulmars) and learn their ways, blurring the boundaries of species but not the borders of blade.

So Sedna, as anirniq-angakkuq (soul which is shaman) crosses the souls of all beings. According to the organic and non-dualistic cosmology of the Inuit, human being was not distinct from being also a dog, a bird and a marine mammal.

In summary, the Inuit cosmology of Sedna illustrates the theme of Natality by highlighting the human ability to `` come out " as a differentiated person determined to reconfigure the world in a different way and willing to take responsibility for who she is and what she does.

After Sedna's transmutation into Sea Woman, she continues to live in the "human condition" of loving the world and being interdependent with the human family. Sedna expresses a full range of emotions, from angry frustration to mother's tender love. Her anger is unleashed in the form of storms and withholding of marine animals who wielded "supreme power over the destinies of mankind" and required rituals to relieve her if she was offended.

The Sedna festival is not celebrated on an annual basis but only when bad weather or the scarcity of game requires it because Sedna does not release the animals. The holiday is celebrated when the camp is under the pressure of hunger. Its objective is to renew relations with Sedna. After the party, two masked shamans, disguised as male / female couples, organize the pairing of couples for "rejoicing" - the exchange of sexual partners. Temporary husbands are called "Sedna companions" and all the children of these unions are "the offspring of Sedna"

Several other mythical characters clash in battles that turn heaven and earth upside down. Monsters, ogres, giants prowl in storms, crush igloos, slaughter dogs; horrible heads fly low to the ground chasing humans. Death is a recurring theme in legends. It is through the head that the soul leaves the body; death constitutes a new stage in the cycle of life but some dead are condemned to wander eternally in the Torngat Mountains (hell). The latter called Katjutaijuk have the shape of a flying head with long hair. At night, they have fun playing tricks on the Inuit like elves. It is from these beings that Inuit women would have learned throat singing. The Tunits, small people barely visible, harass those who are too close to where they live. On the other hand, it is recommended to leave some food near the place so that the Tunits have something to eat since they are too small to be hunters themselves. The lakes each contain a giant fish that prey on either the caribou or the hunters crossing the lake. These stories are therefore presented as a sort of manual for the use of the territory that it is advisable to know. Thus the misadventures of the ancestors must serve as a lesson to their descendants. Finally, the shamans can count on auxiliary beings the Ijirait whose name means the invisible, a people of human appearance whose faces have certain features of the caribou which help the shamans in their search for solutions to earthly problems. From twist to twist, the Inuit have succeeded in eliminating one by one these beings of uncertain humanity. No longer under the threat of dwarves, giants and specters, the Inuit were able to develop their society that of "men par excellence". Myths and legends are there to remind them that the Inuit have managed to restore order in a world (Sila = universe) originally chaotic.

LEGENDS - INUIT STORIES (the)

The oral tradition of the tale speaks of women and men, sometimes children and animals endowed with extraordinary powers, strength, courage, tenacity and even endowed with gifts such as clairvoyance bringing them into contact with the spiritual world. . So much for the legends associated mainly with mythology. It is otherwise with the story that transmitted information about customs, moral codes, social protocols, family history and events as well as the location of animals, their behavior, tracking, the main places of camps, trapping techniques, not to mention the names of places and vocabulary dedicated to the sea and the continent. This is how all the ancestral knowledge concerning Inuit cosmology, the history of the people, the trials and the struggle for survival were perpetuated through oral tradition. In all societies, legends serve various functions: to codify ways of behaving, to bring order to the cosmos, to regulate social conventions, to inspire by example or even to explain various natural phenomena that are otherwise inexplicable. This ancient form of storytelling is particularly present in Inuit culture. Here are two legends :

1) Legend of Luumaq. Guided by his mother, a young blind Inuk shoots a stray bear. The mother was a stepmother who often mistreated her son. She told him he missed the bear and kept all the meat for herself and her daughter. Fortunately, his sister secretly came to feed him. Unbeknownst to his mother, the boy regained his sight thanks to two magical loons that plunged him into the ocean. Keeping the secret about his recovery, the child noticed his mother's tricks. Preparing his revenge, he persuaded his mother to tie a rope around his waist and suddenly harpooned a beluga dragging the stepmother into the sea doomed to eternal retribution. It would still revolve around the earth clinging to this marine mammal. His plaintive cry that sounds like "Luumaq" still sometimes resonates to remind the Inuit to treat the disabled in their community well.

(2) Atunga, exists in other regions of the Arctic and includes some local variations. The version reproduced here is from narrator Johnny Annanack and is located near Kangiqsualujjuaq. According to Annanack, this legend carries a powerful message against idleness: those who are active and constantly busy stay young, while those who just "hang out" age quickly. A man named Atunga and his wife had embarked on a trip around the world, leaving their young daughter at home. They traveled by dog sled and by boat. They have been gone for years and years. Atunga and his wife even traveled through the land of the qallunaat [white men] where they acquired pearls to give to their daughter as gifts. When they finally got home, their daughter had grown into an old woman when they were still relatively young. The girl looked down on Atunga's gift and said, "An old woman doesn't care about these pearls!" You can see Atunga's footprints in the rock near Kangiqsualujjuaq. -Free translation by MacDonald (2000), But the social changes initiated with Westernization (radio, television, internet) mean that the art of storytelling, the richness of tales has diminished mainly because the younger generations of today spend less time in the field, hunt less there, and have less need of the necessary information transmitted by the elders who prefer to chat with each other on social networks. Taken together, these factors do not provide the ideal climate in which the art of storytelling could flourish. Heyes Scott, The Inuits and the Crees of Northern Quebec, 2011, p. 302-304

SHAMAN - SHAMANISM

The shaman (angakkuk) is at the same time healer, sorcerer, spiritualist, storytelling artist and man of power. He is the guardian of the historical and mythological knowledge of his culture, of sacred and secular knowledge; the meeting point of the fundamental criteria and guidelines guiding human relations outside and in society. He or she is a wise man since women can become shaman on condition of being pre-pubescent, sterile or menopausal because as long as a woman is fertile, her energy is entirely devoted to her reproductive function. On the other hand, transvestites (woman in man or man in woman) are considered to be powerful shamans, By the diversity of his gifts, the shaman has access to the spheres where the forces meet. human, natural and supernatural; equally at home in cosmic and terrestrial geography.

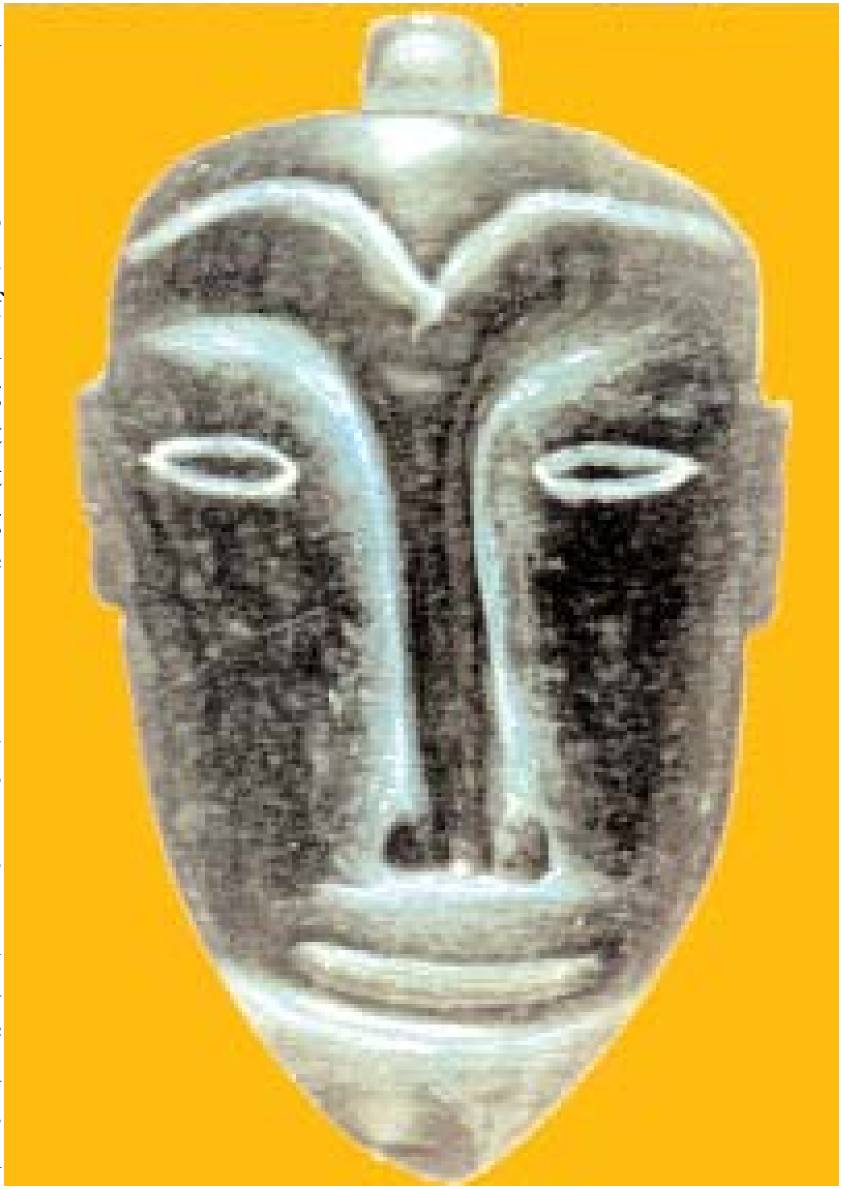
of the community. The shaman owed it to himself in a dream or in a trance to leave his body to go and stay with the Spirits who showed him how to restore harmony. The ecstatic trances of the shaman evoke the flight of a bird which frees the spirit of the shaman from the terrestrial gravity, thus able to walk in the other world. Following ascetic exercises and numerous mortifications, the shaman bathes in a special atmosphere drawing from it the restorative energy of earthly disorders. One of the ceremonies that most impressed Europeans is undoubtedly the osapatchikan, the shaking tent. This tent was a highly revered sacred place used only for the shaman for special ceremonies such as finding missing persons, finding an important object or resolving an exceptional case. The shaking tent ceremony took place on moonless nights. The shaman, his face blackened with charcoal, entered the tent and sang invocations and then dialogues and suddenly the audience saw the tent move strongly and heard shrill cries and gasps. After a few minutes, a heavy silence followed the fury, the assistants then lifted a section of the tent and still under the shock of the din, saw the officiant lying on the ground feet and hands tied at the entire thank you of the Spirits . The shaman had then sacrificed himself to fight the evil forces and explained the directives given by the Spirits and came out of the ordeal. For the natives, the animals, mainly the caribou for the Inuit and the black bear for the Cree, act as intermediaries between men and the spiritual world. Only the shamans were invested with magical powers to join the spirit of the caribou to ensure its cooperation for a successful hunt : "The shaman prepares the rite of outlickan meskina, the Bone Tracks ceremony. of the shoulder or Scapula reading. This ritual is of great symbolic and spiritual importance for the Innu community. Once the scapula is removed from the caribou carcass, it is exposed to the hot coals. The heat of the fire cracks the bone on all sides. These cracks give the knowledge of things which touch on the hunt and other omens. Thus, a long crack in a straight line from one end to the other means death or famine, a short zigzag without ramifications means misery. Twig-like cracks with small burnt spots on the edges indicate abundance. When these spots are near the base of the bone, it is a sign that the game is nearby. The further they move away from it, the greater the distance traveled to reach it. Finally, the largest burnt spot always indicates the tribal camp from which the Innu can orient themselves in their hunt ".

TRADITIONAL KNOWLEDGE

"The law of nature is simple. It is not possible to change it, it reigns over everything. It is not a strict regulation, it is not a tribunal, nor is it a group of nations of this world that could change the law of nature. We are subject and bound to these natural laws. The natives understood these natural laws. They gave themselves laws which coincided with the laws of nature. This is how they survived. " So expressed an aboriginal person to explain what represents the traditional knowledge of the Amerindian and Inuit nations developed by sensory qualities, the most remarkable of which are visual acuity and an extraordinary auditory perception. All knowledge is based on a moral. For example, the moral of the hunt takes into account the availability of a sufficient quantity of food and animals to assure the community.

It implies a notion of territory of ancestral places shared equitably. Thus people meet their needs while respecting other people in their decisions whether or not to increase the number of intakes; the most successful families take care of the needy. From the acquisition of this knowledge (silatuniq) emerges a discernment, a way of being, a form of wisdom resulting from a sustained learning process which integrates generic knowledge associated with personal experience.

Recently, elders have been teaching ancestral qaujimajatuqangit in public schools, including knowledge of wildlife and hunting techniques, the treatment of skins, making clothes, making kayaks and sleds and using tools. traditional skills, weather forecasting and the ability to navigate the tundra or the sea, and an understanding of complex family relationships.



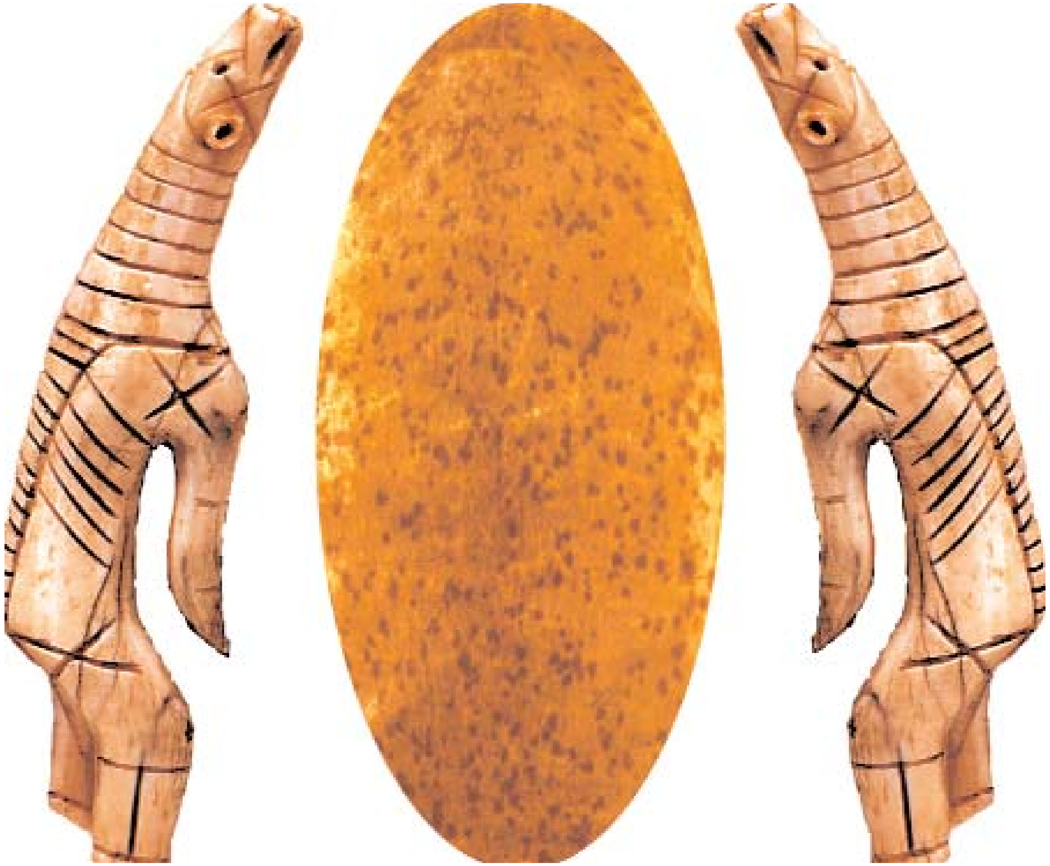
SCULPTURE

The sculpture made it possible to visualize in forms and volumes specific to the plastic arts the tales and legends of the oral tradition. The first carvings in walrus ivory and whalebone engraving belong to prehistoric times. The Dorset and Thule people did not produce art objects for the sole purpose of admiring their beauty. For them, two words are used: "piujuq" is good and "piunngituq" is bad.

The Thule people were very skillful craftsmen who made utilitarian objects such as needles (mirquti), scrapers, combs, harpoon points (unaaq), knives (savik) and arrows and jewelry : rings, pins, pendants. Archaeological excavations have uncovered a caribou bone scraper (Yukon) dating back more than 30,000 years, the oldest tools found in North America. The raw materials available are diversified, ranging from driftwood to caribou antler, including flint, whalebone, teeth, slate, soapstone and of course walrus ivory. The ivory pieces were smaller and served as amulets and talismans associated with spiritual power. A few figurines of fantastic animals and beings either served as children's toys or served for ritual purposes. From 1812, the Inuit sculpted to trade with the European Qallunaat. Before 1950, however, these memorabilia were rarely appreciated. It is said that in Inukjuak, the local HBC merchant threw them in a large bucket and in exchange gave the sculptor barely five cents of tobacco, tea or flour. It is believed that the artisanal character of Inuit art began to change as soon as the Inuit began to produce the objects that sold best in the trading posts, that is, those that conformed to the idea that foreigners had of Inuit life. The advent of stone carving at the turn of the 20th century dealt a heavy blow to ivory and whalebone as materials since whalebone must dry between 50 and 100 years before bleaching and being used.

Considered endangered, a 1975 law prohibits the use and import of whale bones. Sculptors of whalebones and ivory have been very rare ever since. Among the Inuit, the concepts "art and artist" are terms that do not exist in the vocabulary. Thus "sanannguati" designates "the one who sculpts" and "sanannguaq", whose etymology is revealing, designates sculpture. Indeed, "sana" means the action of doing and "nnguaq" contains the idea of the representation inscribed in the material.

Thus the drawing, the design, the shape whatever is already contained in the material used and emerges thanks to the talent of the sanannguati. We are talking here about an artist-sculptor who creates "takuminartuq" (pleasant to watch) in opposition to a producer-sculptor : a good worker who shapes stone quickly because he aims for a large distribution which fortunately has repercussions in economic progress from the community. The first sculptures produced for commercial purposes were in soapstone; a greyish colored stone with a soft texture to the touch. Over the years, other heavier, denser minerals including olive green olivine and darker green serpentine were used. Caribou antler carving is the specialty of the villages where the George River herd, the most populous in the world, and the Rivière-aux-feuilles herd, stay. Caribou lose their antlers every year, but you have to wait several years to give them time to dry and bleach before use.



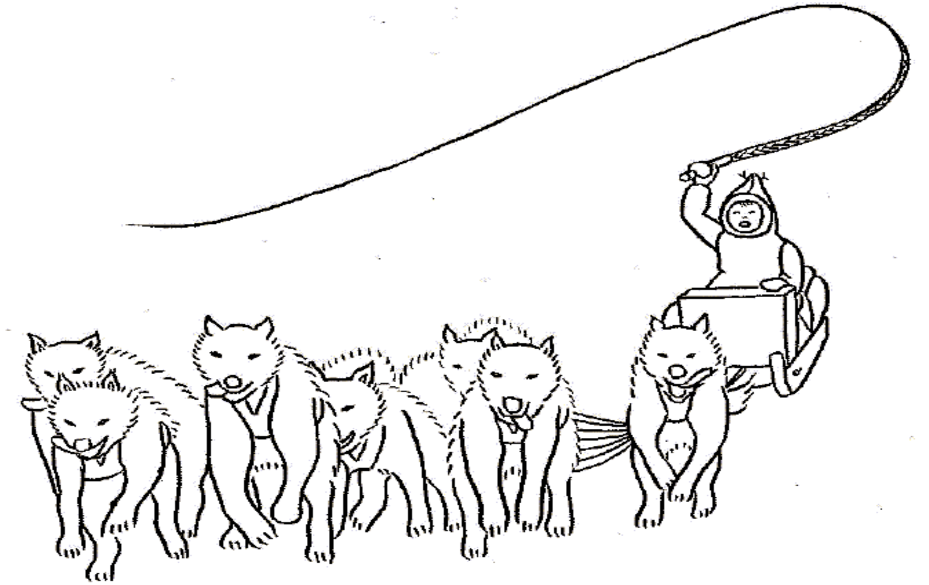
In all cases and regardless of the material used, Inuit sculptors all affirm that beings, animals, objects are already present inside the raw material and that their role only serves to identify and reveal them. So much so that Inuit art is not based on aesthetic criteria such as the notion " beautiful - beautiful" but on that of "well done - real". Handicrafts are identified with the work of ancestors who made useful items. Thus the traditional sculptures were related to a domestic art while the contemporary sculptures from the 1950s would be an art of acculturation. Indeed, recent archaeological research indicates the art of contemporary Inuit differs from artefacts of arctic populations of prehistoric times, in other, ancestral sculptures are smaller than those of today. So much so that the sculpture was influenced by the conventions of the Western market and the production of larger pieces is an innovation commissioned by dealers and collectors intended to appeal to the tastes of the public.

In addition, abandoning traditional themes, Inuit sculptors began to make replicas of foreign objects such as chess and dominoes on demand. The tourist souvenir industry is taking over the market. Despite everything, acculturation is not only harmful; ourselves, have we not gone from the horse to the carriage leading to bad equestrian art. Thus, for certain art historians, contemporary Inuit art freed from traditional ties has found a new goal representative of a social position different from Inuit society in general. Around 1950, some communities were introduced to stone engraving printing and told the stories and worldview of their people. Finally, let us not forget that sculpture represents a formidable tool for social integration, let us think of the sculptor Jiimi Kuuttuq Qungiaq, blind and yet able to meet his needs thanks to his talent.

DOG (Eskimo, sled)

The dog is the only domestic animal that emigrated from Asia to America. Among the Inuit, this domesticated canine and its master formed a symbolically almost inseparable whole. Among the Inuit of yesteryear, the role of the dog was multiple and, in many ways, essential. Thus, he spotted the seal breathing holes, he could find his way in the blizzard and he pulled the sleds when traveling. On the spiritual level, he sensed the presence of dangerous spirits and warned his master. It also protected humans from any real danger. Its urine, blood, saliva and feces, substances highly valued for their potency, were used to heal humans. The way to feed or starve a dog depends directly on its status, a status that it owes mainly to its function, food security being the prerogative of the companion, sometimes the hunting aid. The daily meal, in any form whatsoever, is not a given: the dog's age, sex, function and seasonal rhythm are all parameters that must be taken into account. Between the sludge and the granting of a carefully prepared meal, human labor increases as it assures a daily ration. Scavengers, excrement lovers but also vegetarians, dogs are responsible for removing everything that lies around homes. It seems, at first glance, that no work is provided to feed wandering animals, although a minimum of intervention is necessary to establish the scavenging, namely the surveillance of food and leather equipment (the leather is an edible food for dogs), a task that falls mainly on women, housekeepers. An important part of the control is through the voice, the giving of names, jeers and the use of comments, laughter, and more generally encouragement, rejection, etc.

More than a recall technique, it should be noted that the function of verbal training is to promote indirect communication between people: dogs are used as supports for unspoken, for criticisms which are never spoken directly, for sexual behaviors including we dare not speak. It is the men who castrate the males and sterilize the bitches, who select and exchange the breeding males. But for their part, the women only intervene when they spot the heat and lock the bitches up to avoid inappropriate matings, when they take care of the litters and separate the mother from the young. Regarding the killing, both the sacrificial knife and the products of the sacrifice, the various parts of the dog's body remain in male hands except the skin given to women to make clothes. As a general rule, we do not kill or eat our dog except in cases of extreme famine. We never sacrifice our companion but an animal towards which we have no feelings. The idea of an emotional estrangement necessary for the killing is confirmed. In extreme cases of survival, it was eaten, which made it possible to avoid cannibalism. In the past, after a funeral, dogs were allowed to consume human corpses. On the cosmological level, we find the myth of this woman who marries a dog and who gives birth to half-human, half-canine entities.



There was a real symbiosis between the dogs and the Inuit. The dog is the only animal that has a name that links it to a master that gives it a human dimension in animals. The replacement of sled dogs by snowmobiles was one of the major upheavals experienced by the Inuit since their contact with the Whites. On a daily basis, the abandonment of dogs is marked by the sudden release of a time previously allotted to care for them and feed on the one hand and on the other, to maintain and repair the equipment (hitch, harness, skates) related to their use, that is to say several hours a day.

HUSKY (qimmiq - Eskimo dog)

The first men arrived in America with their dogs Dogs have been humans' best friend for thousands of years, and scientists are trying to trace the major milestones in their shared history. A new genetic and archaeological study carried out in several European and American universities shows that when the first humans set foot in America, they were accompanied by their domesticated dogs in Siberia Scientists carried out genetic analyzes on human and canine remains in several regions: Siberia, Beringia, the strip of dry land between Siberia and Alaska that served as a gateway to America for humans - today, the Bering Strait -, and the North America. It appears that the first wolves, ancestors of dogs, were domesticated in Siberia about 23,000 years ago during the last glacial maximum. Another study, published in 2020, placed the beginning of the domestication of the wolf a little further back in time, at least 28,500 years ago.

"The combined evidence from human and dog remains helps us refine our understanding of the long history of dogs, and now points to Siberia and northeastern Asia as the region where its domestication began." . During this period, when the climatic conditions were very harsh, gray wolves (Canis lupus) and humans coveted the same prey. They would then have gradually approached, taking advantage of each other's hunting spoils. The place of the wolf has taken on more importance in human societies, to the point of becoming a precious ally. Living near humans in this way, wolves were gradually domesticated until they became a new subspecies, Canis lupus familiaris, the dog. Thus, they followed their masters on their journey to northern America. 15,000 years ago, they would have crossed the Bering Strait with them, and would have followed them in their rapid colonization of the American continent. "The dogs that accompanied them, as they arrived in a whole new world, were perhaps as much a part of their culture as the stone tools they carried," concludes David Meltzer, anthropologist at the University of Dallas. .

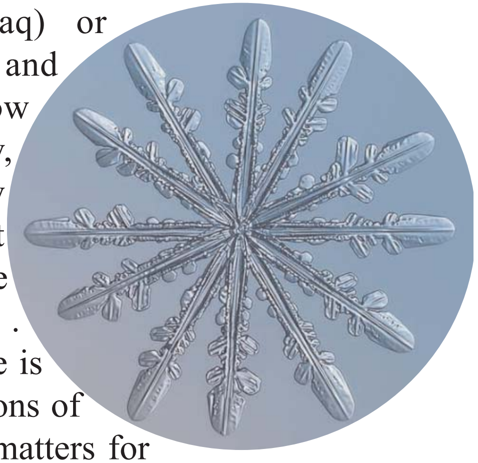
Excellent tracker and great hunter, this Nordic dog is the only animal which, after having scented a polar bear, sets off in pursuit. He does not hesitate to turn around the bear barking furiously and keeps it stopped until the hunter arrives. Every family once owned at least one husky dog to protect against attacks from polar bears. The husky weighs an average of fifty kilograms and can carry or drag the same weight. Loaded with half a ton, the classic ten-dog team travels about fifty kilometers per day, at a speed of 5 to 7.5 km / h. In the tundra, the dogs are harnessed in a fan pattern because there are no obstacles in open terrain and in a single line in the forest. The most important animal in the team is the lead or leader dog whose training is a long and arduous job. She is generally a vigorous, proud, imposing but obedient female.

The whip is a symbol of masculinity often fitted with a penile bone, ideally of a polar bear. To lead the dog team: hak! hak !, right and there! the! the! left and uuau! to stop the sled. In order for dogs to be able to pull a sled all day long, their paws must be in excellent condition. Dogs sometimes hurt their paws in the spring, the melting snow exposed sharp rocky ridges. The Inuit then made them cousin boots made of seal skin or caribou to protect them. On a freezing night, dogs were allowed to sleep in the igloo's entrance porch. Killing one of his sled dogs is a serious and exceptional act. They killed a dog that had killed a human being for fear that he would do it again.

Sometimes a shaman would ask that the favorite dog of the seriously ill master be killed to save his life, believing that the dog's vital force would strengthen that of the convalescent. The loss of hunting implements with the compulsory slaughter of sled dogs in 1960 was catastrophic. The ivakkak is a dog sled race (400 km) that crosses several villages in Nunavik every year to promote the traditional practice of this means of transport.

SNOW

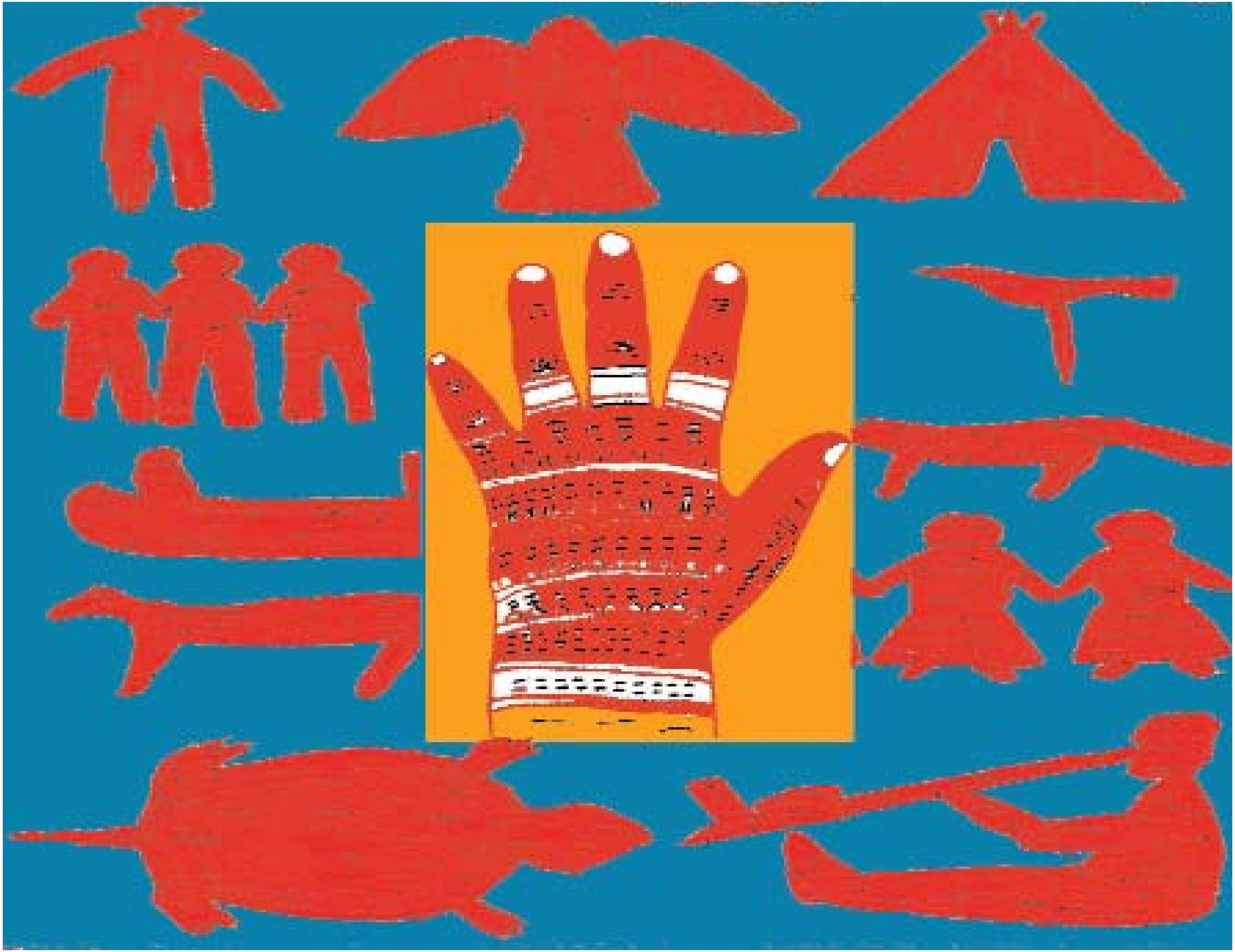
Inuktitut has many words or phrases to refer to snow in different forms or conditions. This great variety of terms resembles the vocabulary of the gardener able to distinguish different qualities of soil. In his dictionary of the Inuktitut of Nunavik (Arctic Quebec), the missionary linguist Lucien Schneider (French-Eskimo Dictionary of Ungava Speech, 1970) cites a dozen basic words (that is, are not taken from another word) to designate snow, and ten for ice. Examples include: qanik snow falling, aputi snow on the ground, pukak crystalline snow on the ground, aniu snow for making water, siku ice in general, nilak fresh water ice for drinking, qinu ice porridge by the sea. There is freshly fallen snow, falling (apuq), the mass (maujualuq) of soft (mau), hard (sitidluqaaq) or crystalline snow, melted snow and frozen again , rain-wet snow (kavisirdlak), powdery snow, windblown snow (pirqsirq), snow that gives way under our feet (kataktanaq), snow that is suitable for building an igloo (illuvigassak) . Each variety of water, snow and ice is a different color. All these distinctions of snow and ice are among the Inuit matters for discussion as they are of vital importance to decision-making leading to a successful expedition. In short, whatever type of term it uses to designate a particular kind of snow or ice, Inuktitut has a capacity for distinction far superior to that of most languages.



NANUK - THE KING OF THE ARCTIC

The Inuit have rubbed shoulders with the polar bear for thousands of years and is undoubtedly the most common animal in the imagination of northern peoples. For them, it is the animal that most resembles man : it hunts and eats seals and walrus, lives in a snow house, stands on two legs. He imposes himself by his intelligence and his physical power; no other animal tries to approach it except the husky dog. Nanuk is therefore the undisputed master of the seas and arctic lands.

Its only rival is humans, both finding their food from the same sources. The Inuit have noticed that Nanuk is left-handed, especially when he claws a seal. It is a solitary wandering on the ice floes of the arctic seas in search of seals or young walruses. Traditionally, the quest or capture of a polar bear was an initiation rite marking the passage of a young Inuk boy into adulthood.



OTHER ARCTIC PEOPLES

Aleutians

The ancestors of the Aleutians and the Inuit arrived in North America. Thousands of years after the earliest peoples traveled from Asia to North America via the Bering Land Bridge (25,000 to 12,000 BC), the ancestors of the Aleutians and the Inuit arrive on the continent.

These people probably used small skins or antlers boats to cross the Bering Strait (the waterway that covered the Bering Land Bridge after the polar ice melted at the end of the last Ice Age. These newcomers will eventually settle throughout the Arctic and on the Aleutian Islands off the southwest coast of present-day Alaska. Because their ancestors arrived in North America much later, the modern Aleutians and Inuit are closer to Asians than to Indians.

About 1,000 years after their arrival in North America (3000 to 1000 BC), the ancestors of the Aleutians and the modern Inuit developed a distinct culture. The first Aleutians settled on Aleutian Island, 1,400 miles long off what is now Alaska. Two main groups of the Aleutians established permanent villages on the coasts of the Aleutian Islands: Unalaska, closer to the mainland, and Atka, further west.

The Aleutian environment is warmer, windier and wetter than that of the Inuit frozen Arctic. The Aleutians share hunting expertise with the Inuit, but their community life, in which people are ranked by hierarchical position based on wealth, is more like that of today's Northwest Coast Indians.

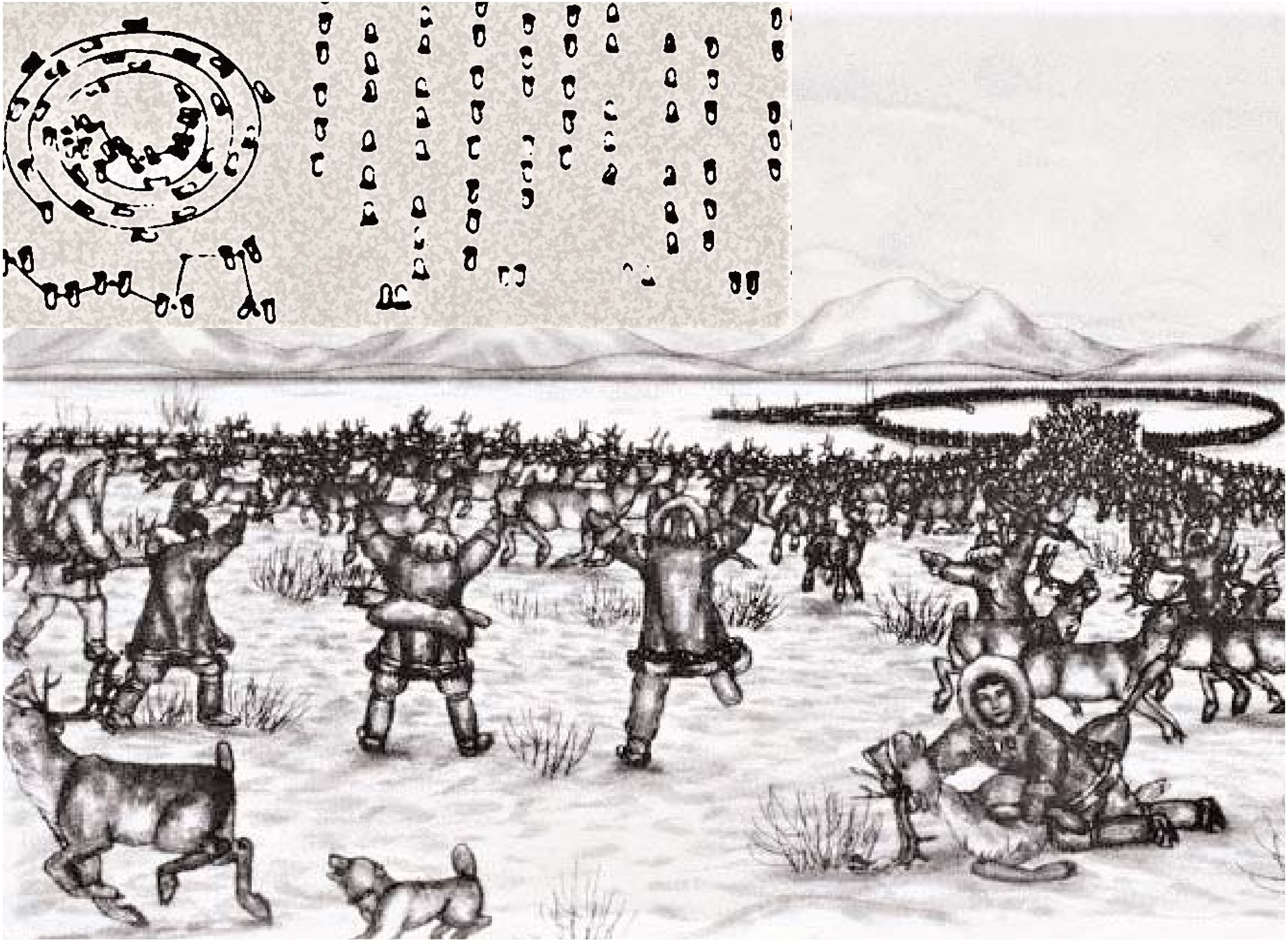
The Aleut economy was based on the sea. The Aleutians hunt mammals of the ocean, such as sea otters, seals, the sea, sea lions, walruses and whales, and they fished, especially salmon and crustaceans. They also hunted birds and gathered roots and berries.

The Aleutians lived in "barabaras," large communal houses built on pits, with roof beams of driftwood or whalebones, and walls made from pieces of grass. Smoke holes in the roof or a separate passage facing east served as a door. The houses were heated and lit with stone oil lamps.

Aleut kayaks, or baïdarkas, were made in the Inuit style: kayaks - oiled walrus or seal skins stretched over the light, wooden frames. They were short, with the bow curved upwards and the stern squared. Sometimes the arches were shaped like the open beak of a bird. Usually there were two cockpits: the rear for the paddler and the front one for the harpooner. The harpooner used a throwing board for additional leverage by throwing the harpoon further away. The Aleutians also used larger open boats called igilax.

Aleut clothing was effective against rain and cold in a double layer and made primarily from gut, especially seal intestines as well as skin. Hooded parkas of varying lengths, extending to the hip or below the knee, served as outerwear. The hunters wore wooden helmets with long visors that were decorated with ivory and sea lion whiskers. The Aleutian added decorations to their clothing using hair hair and animal skin dyed in different colors.

Groupe aléoute	aléoute (700 loc.)	aléoute: du sud-ouest de l'Alaska
Groupe eskimo	yupik (16 000)	alutiiq: côte sud-centrale de l'Alaska yup'ik de l'Alaska central : côte de la mer de Béring yupik sibérien central : île alaskienne de Russie yupik naukanski : est de la péninsule des Tchouktches (Russie) yupik sirenikski : sud de la péninsule des Tchouktches (Russie)
	inuit (65 000)	inupiak de l'Alaska inuktun de l'Ouest canadien: mer de Beaufort, Arctique central inuktitut de l'Est canadien: Nunavut, baie d'Hudson, Nouveau-Québec inuinnaqtun : Nunavut et baie d'Hudson itivimiut: côtes québécoises de la baie d'Hudson tarramiut: baie d'Ungava (Québec) kalaallisut (groenlandais): Groenland



Bering Strait Inuit corralling a reindeer herd, drawn with ink on hide by Inuit artist George Ahgupuk
(The Anchorage Museum of History and Art, 70-156-2 detail 4.2)

The Aleutians also made elegant baskets, as did the Northwest Coast Indians, using ryegrass growing on the beaches. The stalks of the grass were split with the fingernails to make threads, and some of the threads were dyed to make intricate woven patterns.

Another cultural trait the Aleutians had in common with the Northwest Coast Indians was their type of social organization. The Aleutians were more concerned with rank and personal wealth than the Inuit. Chiefs and nobles came to their ranks through their possessions, such as precious seashells or amber. Under the chiefs and nobles were commoners and slaves. Unlike the Indians of the Northwest Coast, the Aleutians did not practice the potlatch, an elaborate feast in which gifts are exchanged.

The fur trade

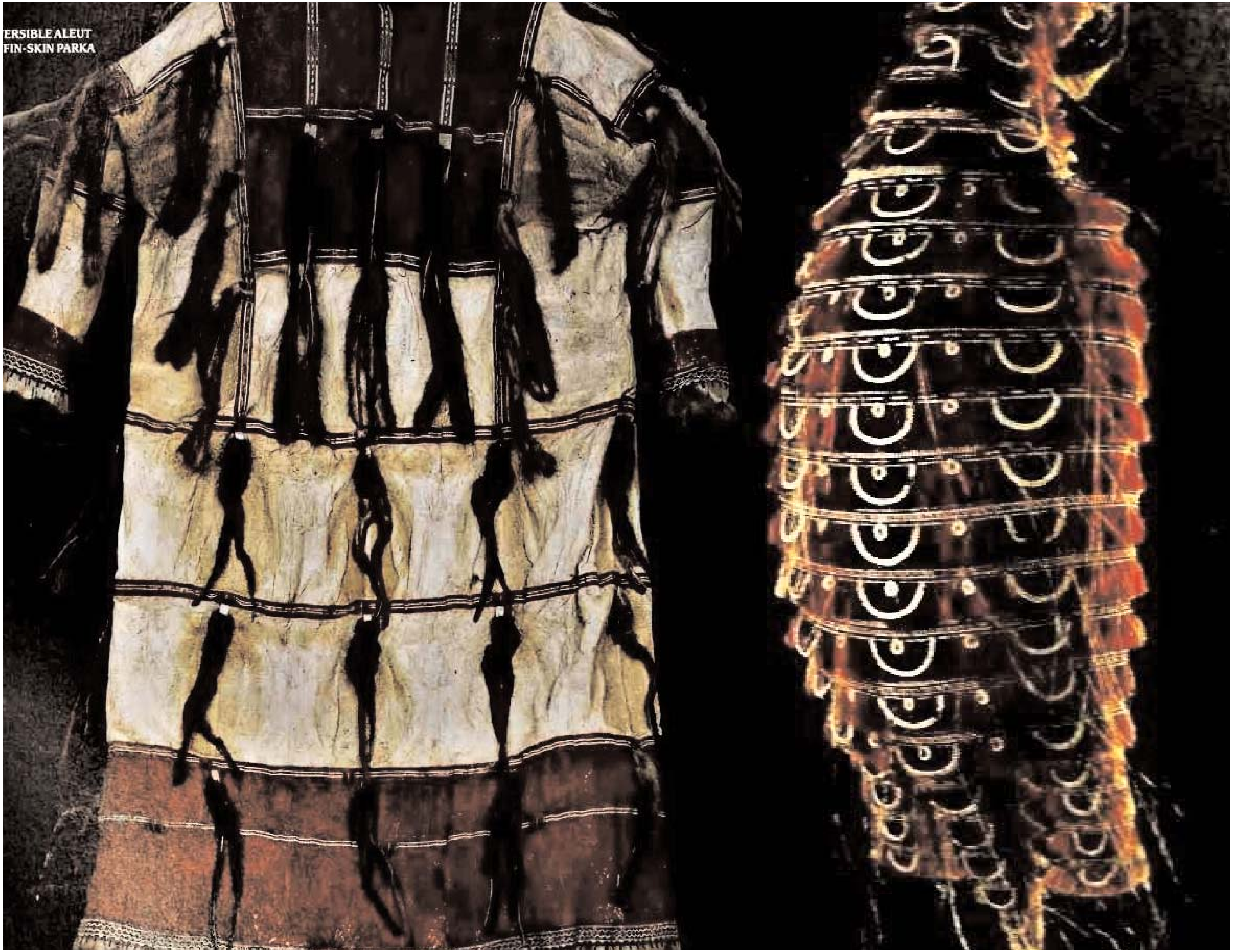
Russian traders and trappers forever altered the Aleutians and their way of life. In 1741 Vitus Bering, a Danish navigator in the service of the Czar of Russia, Peter the Great, sailed from eastern Russia to the Bering Sea, the Aleutian Islands and Gulf of Alaska. Bering's reports of the presence of numerous marine mammals in the area soon brought sailboats to the promyshlenniki (Russian for "fur traffickers"). They had previously crossed Siberia, trapping animals for their skins. Now they had a whole new domain to tap into. They first came to the Aleutians, who were particularly rich in sea otters. And they took advantage of the Aleutians to make a fortune in fur.

Traders were sailing to an indigenous village to take hostages by force, then distributed traps to the Aleut men; forced them to bring back furs in exchange for the liberation of women and children. Women and children were also forced to work, cleaning the furs that the men collected. If men made some effort to rebel or failed to deliver the furs, traders could execute individuals or destroy entire villages.

The promyshlenniki worked east along the Aleutians. The first organized resistance came from the Unalaska Aleut on the Fox Island group, when, in 1761, they wiped out a group of traders. The following year, they succeeded in destroying a fleet of five ships. The Russians responded in 1766 with an armada of warships, manned by European mercenaries and armed with cannons. They shelled many Aleut villages, destroying houses and killing many people.

Resistance to the Aleut was only sporadic thereafter. The promyshlenniki established their first permanent trading post in North America at Three Saints on Kodiak Island in 1784. Russian officials and businessmen began to regulate and further restrict the behavior of traders towards somewhat better treatment. So called the Aleutians and the Inuit were to be paid for their work. Corn traders constantly tricked them into charging them costs of food, protection and other inflated or invented prices spending. In 1799, the Tsar granted the charter of the Russian-American Society, creating a monopoly that competed in the 1800s with the British company Hudson's Bay Company for the world fur market.

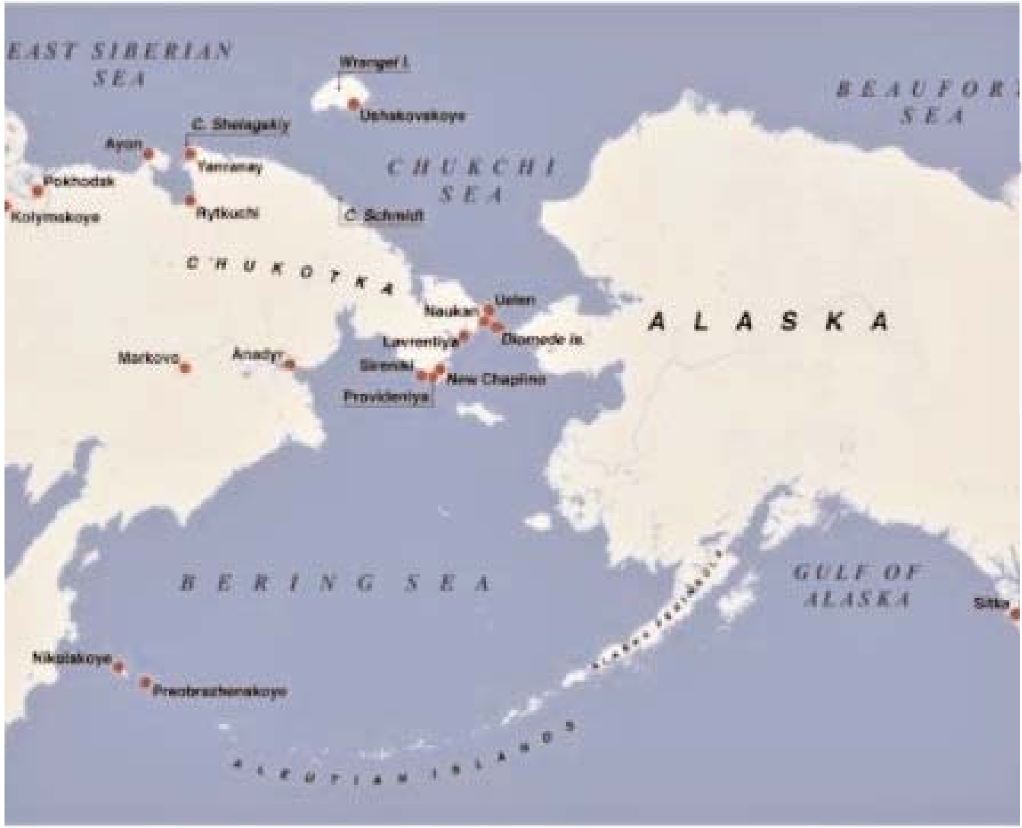
These Aleutians, who had survived the violence of the past and the diseases brought to them by Europeans, were indispensable to this enormous operation of the fur trade. They were, after all, some of the best marine mammal hunters in the world.



ERSIBLE ALEUT
FIN-SKIN PARKA

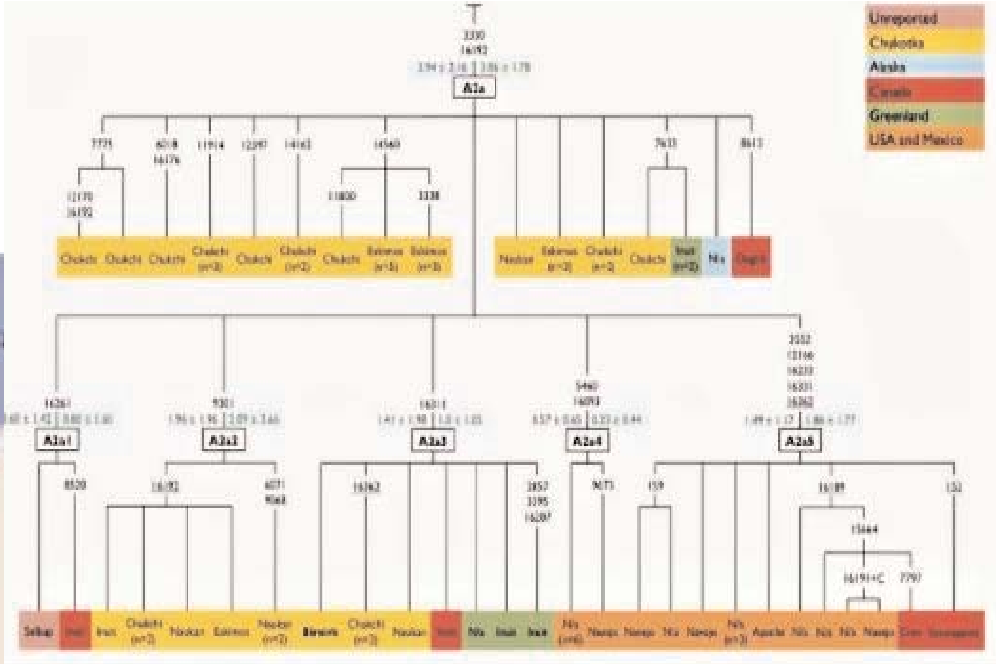
Mitochondrial diversity around the Bering Strait sheds light on prehistoric migrations between Siberia and arctic North America

During the last ice age between 28,000 and 18,000 years ago, the Siberian Arctic was either completely abandoned or very sparsely populated. Global warming between 17,000 and 15,000 years allowed some populations to reach western Alaska, while others remained stranded in Beringia. The first colonization of the New World was followed by a period of gene flow between Asian and American populations. Thus a previous study has shown that this first colonization of America was followed by at least two movements of populations from northeast Eurasia to America. The former contributed to the arrival of the majority of Native American ancestry. The following movements mainly affected the Na-Dene and Eskimo-Aleut groups.



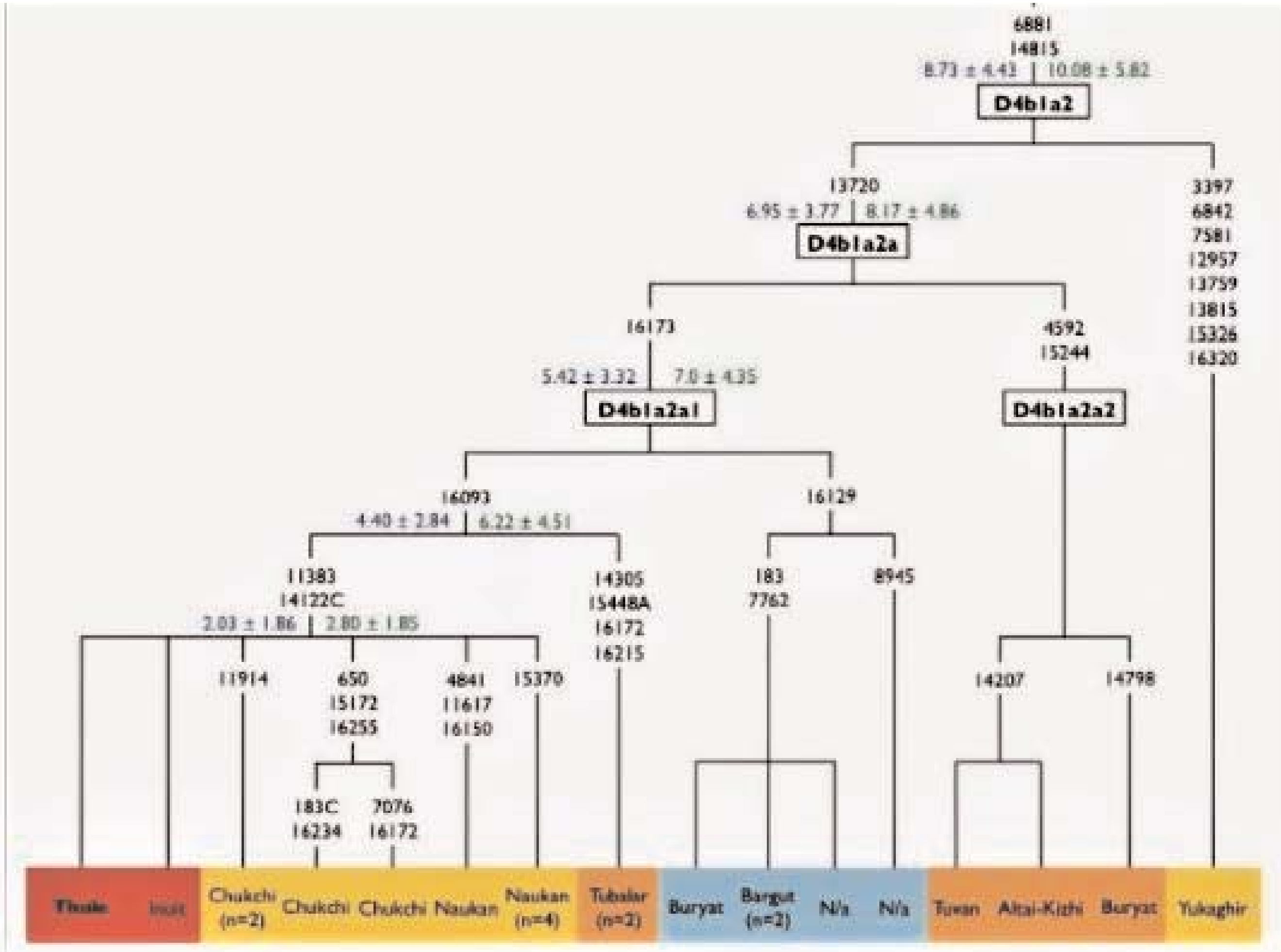
The mitochondrial haplogroups of the arctic populations of northeastern Siberia and northern America are predominantly A2a, A2b, D2a and D4b1a2a1. In this study, the authors obtained 52 new complete mitochondrial sequences which are added to 149 previously published sequences.

Out of the 201 sequences obtained, 8 sequences belonging to haplogroups C5a2, C4b2 and D3 were withdrawn from the study to focus on the 4 main haplogroups. 108 sequences belong to the 2 haplogroups A2a and A2b. A2a is divided into 5 subclades:



The D2a1 subclade is widely distributed and encompasses the Paleo-Eskimo (Saqqaq), dated 3600 to 4200 years, the Aleut (D2a1a), the Sireniki Eskimos (D2a1b), and the Middle Dorset culture. The D2a2 subclade is associated with the Eskimos Plover and Chaplin, as well as the Chukchi populations of the Arctic coast. The presence of the D2a2 subclade in Siberia is intriguing and could be linked to the displacement of around 50 Yupiks from Plover Bay to Wrangel Island in 1926 by the Soviet government.

The age of the D2a haplogroup is estimated to be around 4300 years and the age of the D2a1a subclade specifically Alleut is only 1200 years old. The D4b1a2 haplogroup is separated into 2 main subclades: D4b1a2a1 and D4b1a2a2:



The geographic distribution of haplogroup D4b1a2 and its age of around 9,400 years can be attributed to certain differentiated Siberians in the Altai-Sayan refuge, who then moved towards north-eastern Siberia. Thus the Toubalars of Altai are genetically linked with Neo-Eskimos populations with a common ancestor about 5300 years old.

The phylogeography of A2 shows that central Beringia is the place of origin of this haplogroup which emerged about 15,000 years ago. This date is in agreement with archeology which shows a first settlement of this area 14,500 years ago at Swan Point in Alaska. In addition A2 is absent from the interior of Siberia. Variations of haplogroup D2a in the Commander Islands show that 5 sequences are not of Alleutian origin, but Native American. These results are in agreement with history which indicates that Tlingit women from New Archangel in Southeast Alaska were relocated in 1840 by the Russian Company of America.

The first colonization of the North American Arctic was made by the Paleo-Eskimos about 5000 years ago. This colonization coincided with global warming which allowed men to follow their game: caribou and muskoxen. About 1000 years ago, almost all Paleo-Eskimos groups were replaced by Alaskan Thule culture groups also called Neo-Eskimos. They were the direct ancestors of the current Inuit, and hunted marine mammals such as whales. Although the Neo-Eskimos are originally from the Arctic coasts, it is not really clear whether the Inuit and Paleo-Eskimos are genetically from the same people or are different groups. Of the 3 Eskimos tribes (Sireniki, Chaplin and Naukan), only the Naukan are genetically similar to the Inuit of Canada and Greenland, because they include the D4b1a2a1 subclade. However, the Neo-Eskimos, including Naukan, do not include the D2a subclade. On the contrary, the Sireniki include the D2a1b subclade which is a trace of the Paleo-Eskimos. But we have to be careful, because these results may be related to a problem of under-sampling (too few sequences obtained today).

The direct ancestors of the Paleo-Eskimos originate primarily from the Chukotka Peninsula in north eastern Siberia, while the Neo-Eskimos are found primarily in northern Alaska, but also have Altai-Sayan ancestry. This study points to a common origin of the Paleo-Eskimos, Alleut and Tlingit (with probably other Na-Dene groups), whose common ancestors lived on the southern coast of Beringia during the early Holocene.

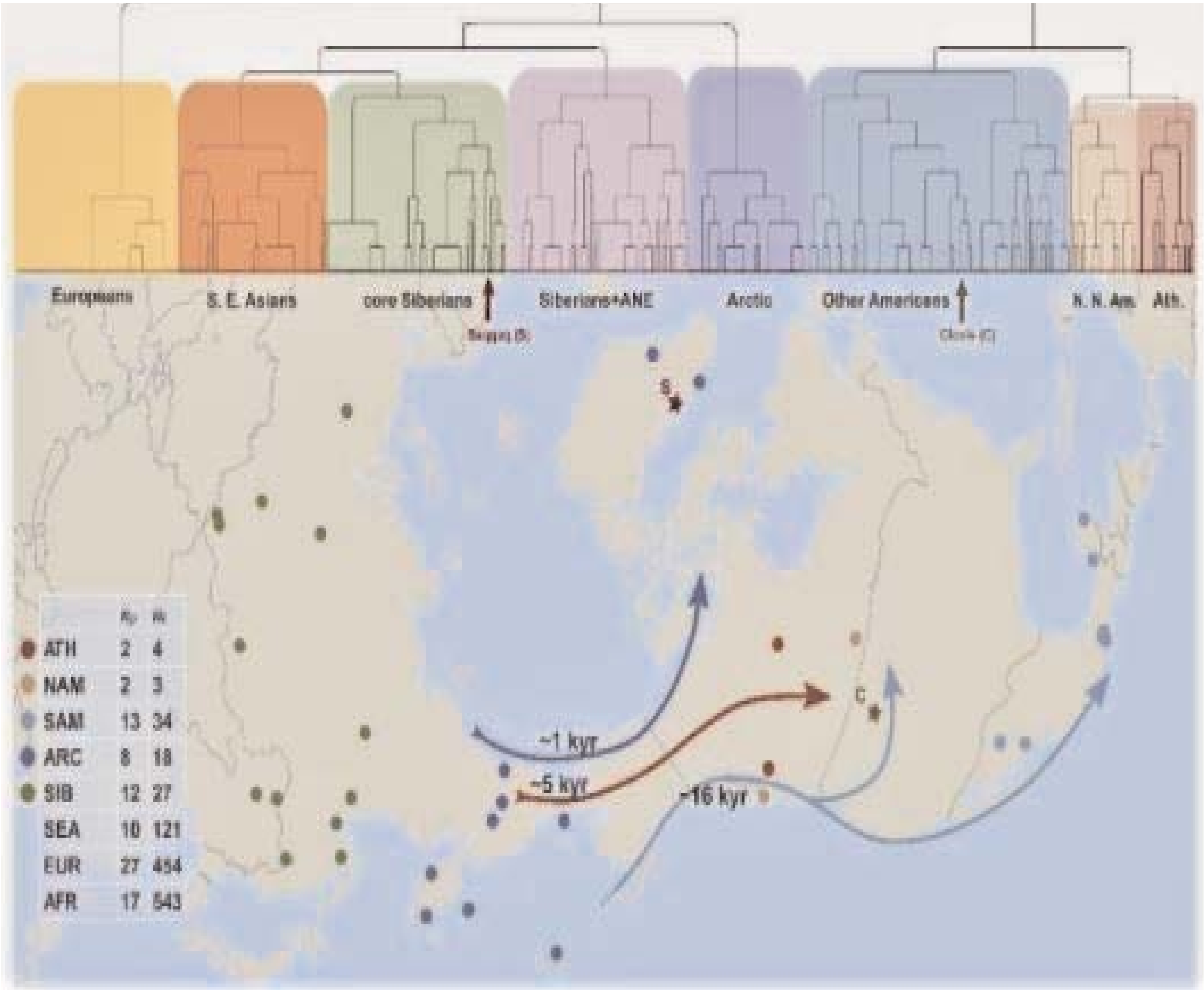
The Na-Dené populations descend of the Paleo-Eskimos

The Na-Dené language family includes Tlingit, Eyak, and the North and South Athapaskan branches (Apaches). They are found in Alaska and parts of Canada along the North Pacific coast, as well as further south. The Na-Dené populations are considered to descend from the second migratory wave through Beringia and associated with the Paleo-Eskimos (Saqqaq and Dorset cultures). It is dated around 4,800 years old. The first migration, dated 16,000 years ago, corresponds to the arrival of the first modern humans in America. The third migration is associated with the Thule culture dated around 1000 years old, ancestor of the present Inuit and Eskimos. The last two migrations are therefore clearly limited to the arctic region of America.

While it is clear that the first and third migrations left current descendants, the fact that current populations descend from the second migration is a very controversial point. Archeology shows that the Paleo-Eskimo culture was replaced by the Thule culture, and possible contacts between them remain uncertain.

A recent genetic study has shown that the Tchipewyans of Canada speaking a Na-Dené language (North Athapascans), have 16% of ancestry corresponding to a population related to a Saqqaq individual from Greenland, 4000 years old, and 84% of ancestry from the First Amerindians. But the results of this study have been rejected by other studies that do not see Paleo-Eskimo ancestry in Na-Dené populations.

Paleo-geneticists have just published a paper entitled: Na-Dene populations descend from the Paleo-Eskimo migration into America. They used previously published footage from several Siberian and Native American populations:



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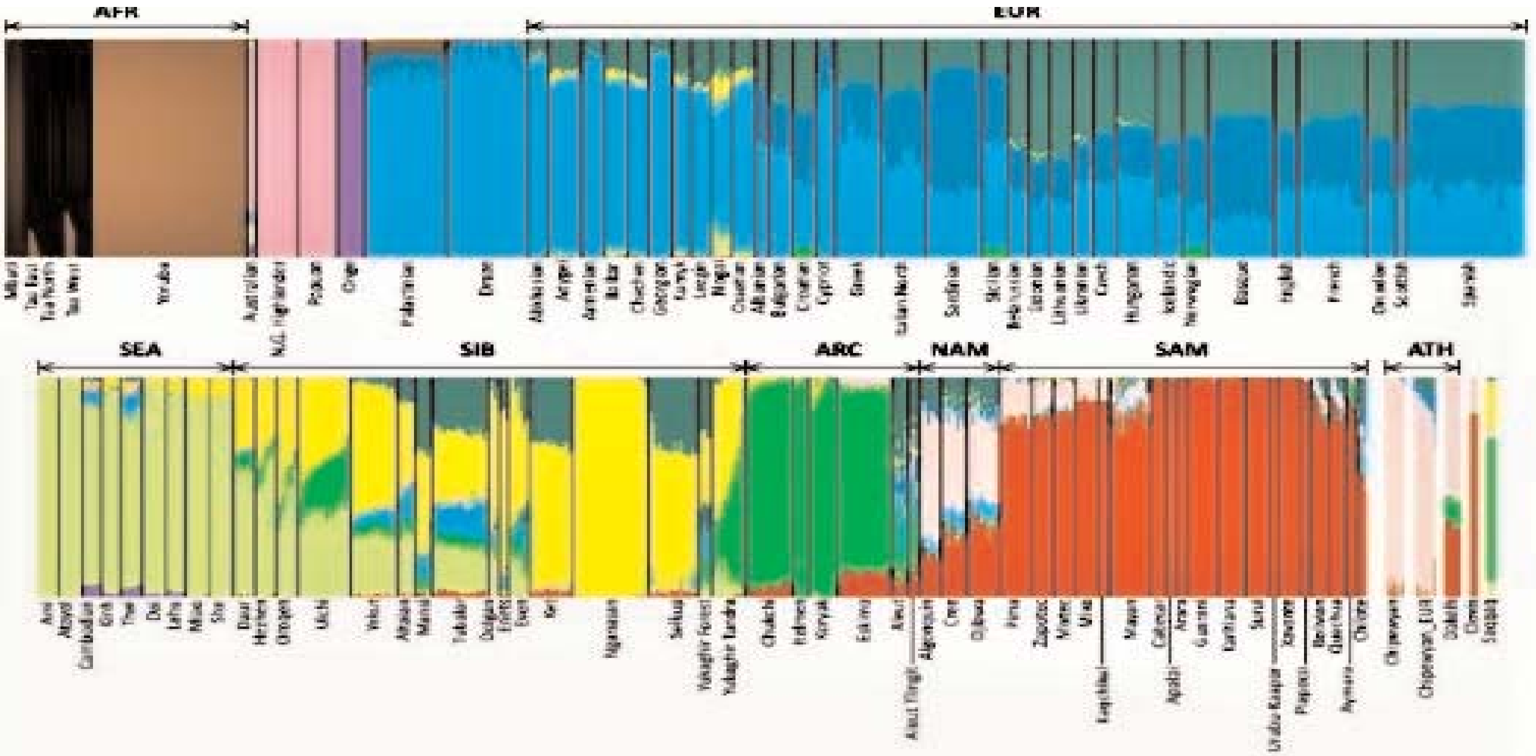

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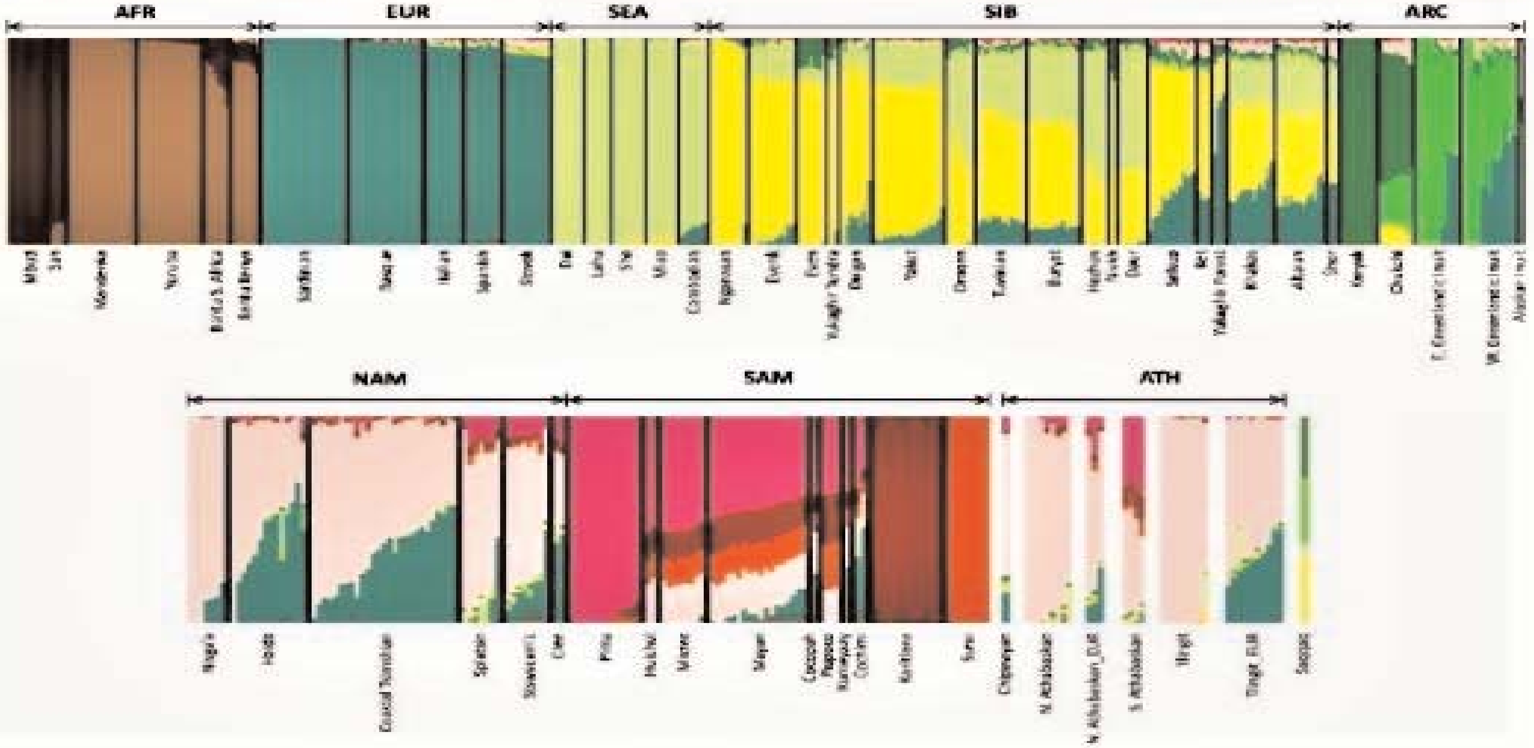
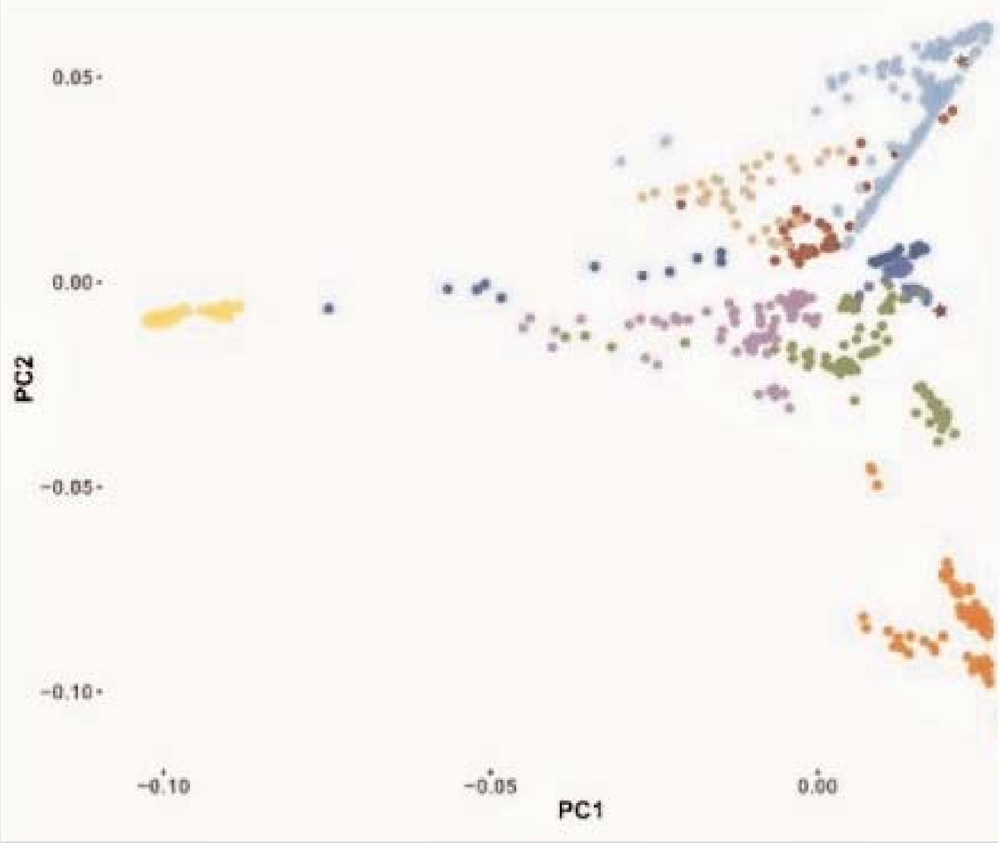
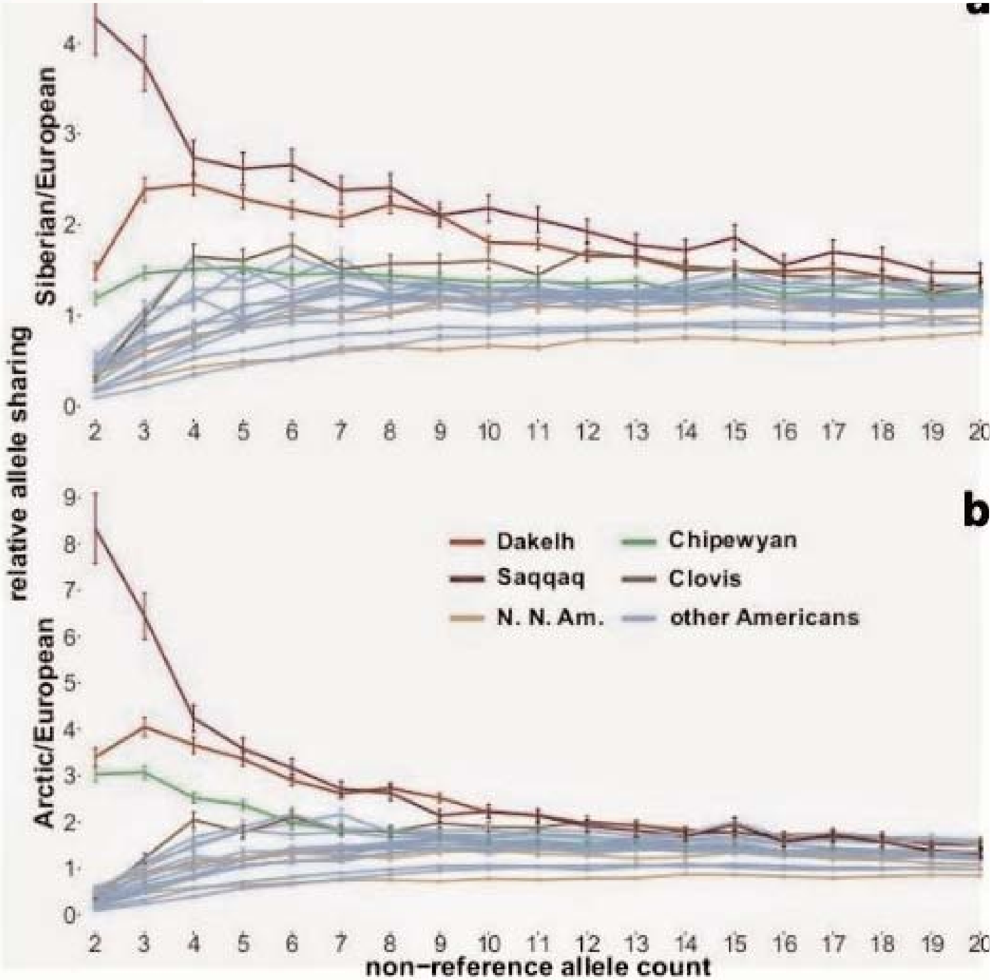
In the figure above, ATH corresponds to Athapascans, NAM to non-Na-Dené North American populations, SAM to South and Central American populations, ARC to Arctic Amerindian populations, SIB to Siberian populations.

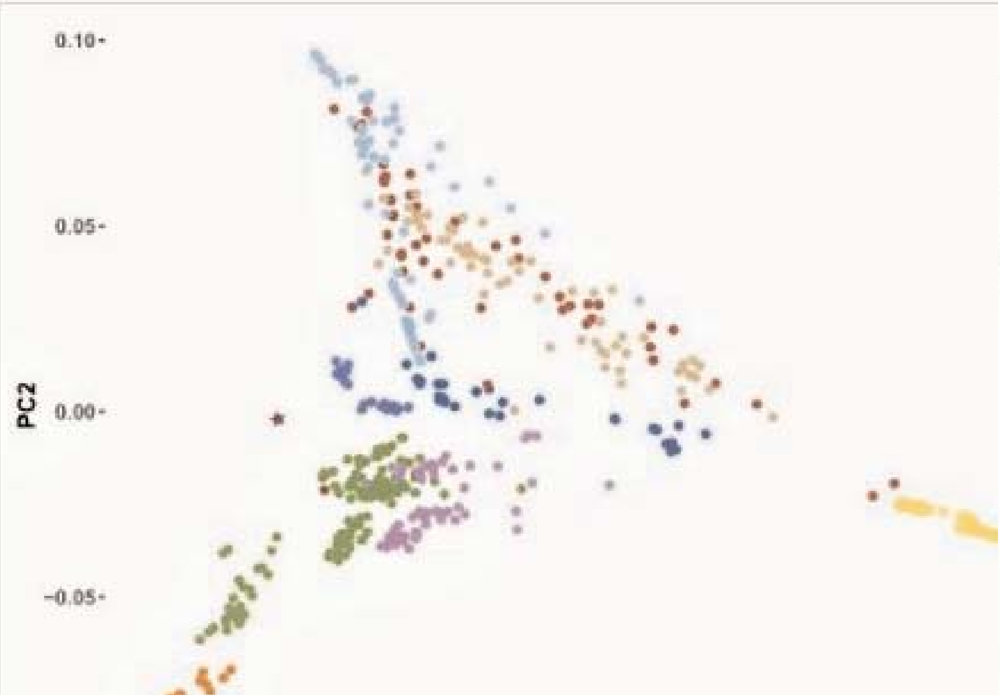




The authors also added to the study, African (AFR), European (EUR) and Southeast Asian (SEA) populations. In all 1216 individuals belonging to 94 populations including two old genomes (Saqqaq and Clovis) were used. For the purposes of the study, the authors used two independent sets of sequences:

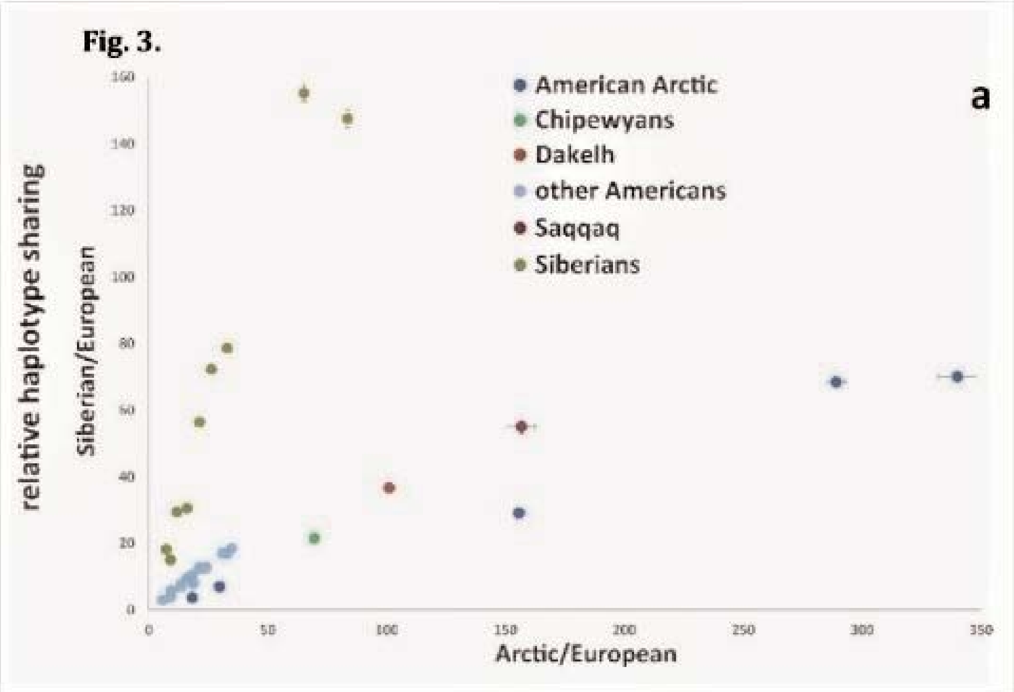
the HumanOrigins platform and the Illumina platform. The authors performed analyzes with the ADMIXTURE software for these two data sets:





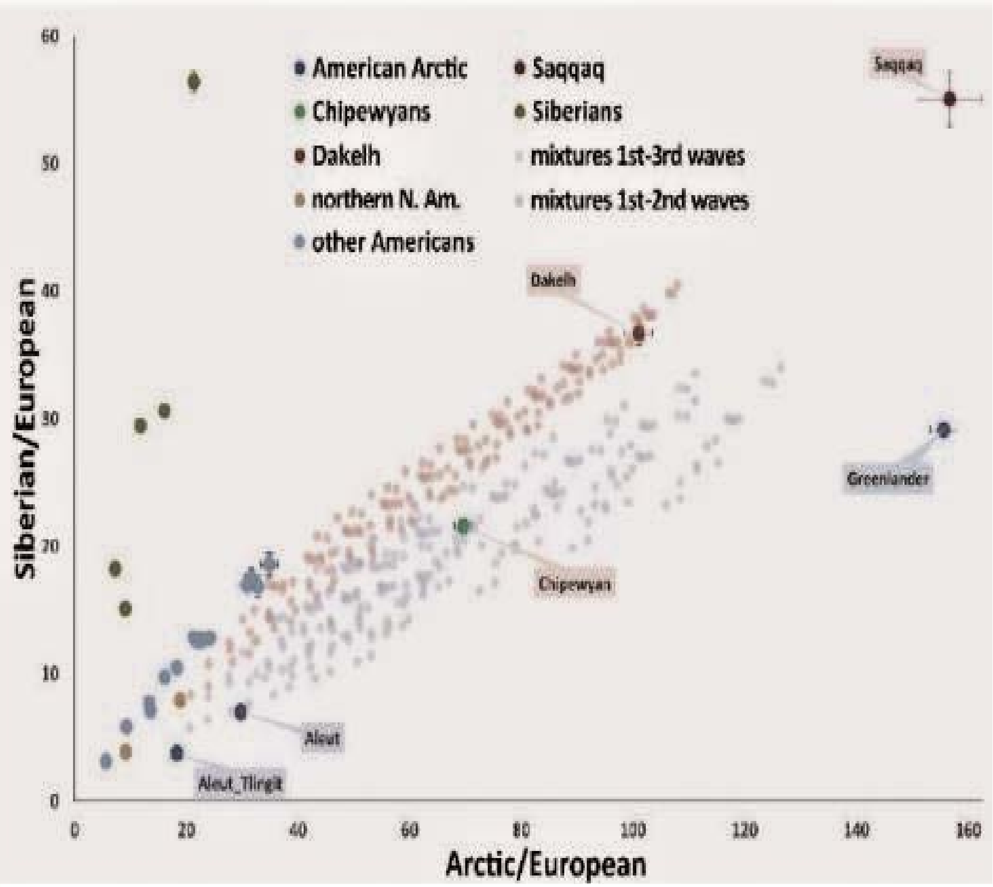
They also performed Principal Component Analyzes with the two datasets:

As these results are not very convincing to identify the ancestry of Na-Dené populations, the authors then used a method based on the sharing of rare alleles which give good results to identify relatively subtle genetic relationships. These rare alleles are observed at a frequency of less than 1%. The authors calculated the sharing of rare alleles for all American populations with Siberian populations (Figure A below), then with Arctic populations (Figure B below). The European populations served as an outgroup population for these calculations:



The ancient Saqqaq individual and the North Athapaskans (Tchipewyans and Dakelh) clearly stand apart from other Native American populations. This result was expected for the former Saqqaq individual, whose close relations with the Siberian and Arctic populations are known. On the other hand, the signal is more important among the Dakelh than among the Tchipewyans.

The authors then represented these same results on a two-dimensional figure, one dimension of which corresponds to the affinity with the Siberians and the other with the Arctic populations:



The populations other than Siberian and Arctic are thus located on a line close to the bisector. The Amerindian populations resulting from the first migration are grouped together, close to the origin. Conversely, the Na-Dené populations are located further from the origin and closer to the Saqqaq individual.

The authors then tried to see if the Na-Dené populations can be considered as a genetic mixture between populations of the first and second migrations, or between populations of the first and third migrations.

Clearly the figure above shows that Dakelh individuals can be considered as resulting from a genetic mixture between first and second migrations. However, Tchipewyan individuals are more likely to be found in populations resulting from a genetic mixture between first and third migrations.

The authors then extended the method by applying it to sharing autosomal haplotypes:
The results obtained for the Dakelh and part of the Tchipewyans show that they can be considered as resulting from a genetic mixture between the first Amerindians (resulting from the first migration) and approximately 10 to 30% of Saqqaq ancestry (resulting from the second migration).

The authors then constructed a demographic model for Native American populations. They used Rarecoal software to estimate divergence times and population sizes. The result obtained contains six groups: (fig. 5)

There is thus about 23% of Siberian ancestry among the Athapaskans of the North. The genetic mix is dated between 6,500 and 7,000 years ago. A simpler model gives a date of approximately 4400 years which thus corresponds to the genetic mixture between First Amerindians and Paleo-Eskimos. There is less Arctic ancestry among the Northern Athapaskans (about 7%). This result is also confirmed by the use of the GLOBETROTTER software with an estimate of the date of genetic mixing around 3600 years. This Paleo-Eskimo ancestry among the Na-Dené is absent among other Amerindian populations.

In conclusion, the results of this study are consistent with a Paleo-Eskimo gene flow (between 19 and 25%) in the Amerindian ancestors of certain Na-Dené, then a lower Neo-Eskimo gene flow in the Na- populations. Not. This Paleo-Eskimo gene flow is lower in the ancestors of the Tchipewyans (16%). Thus only a fraction of the Na-Dené possesses this Paleo-Eskimo ancestry.

Fig. 4.

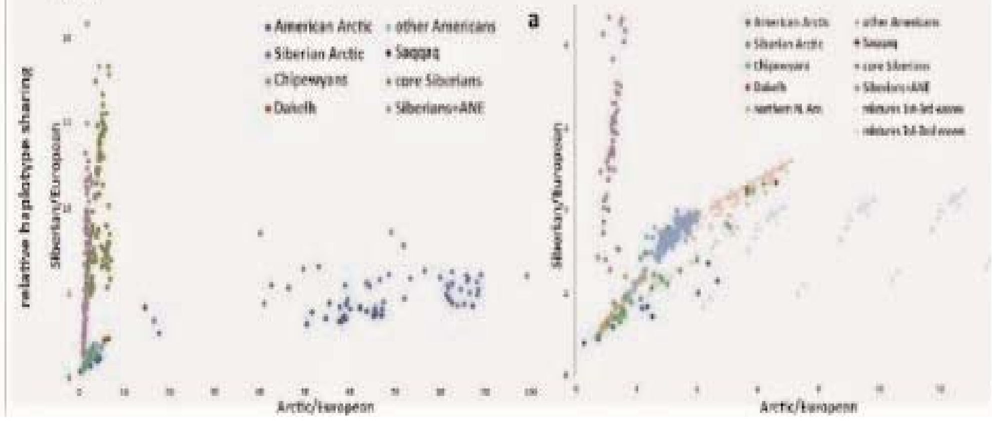
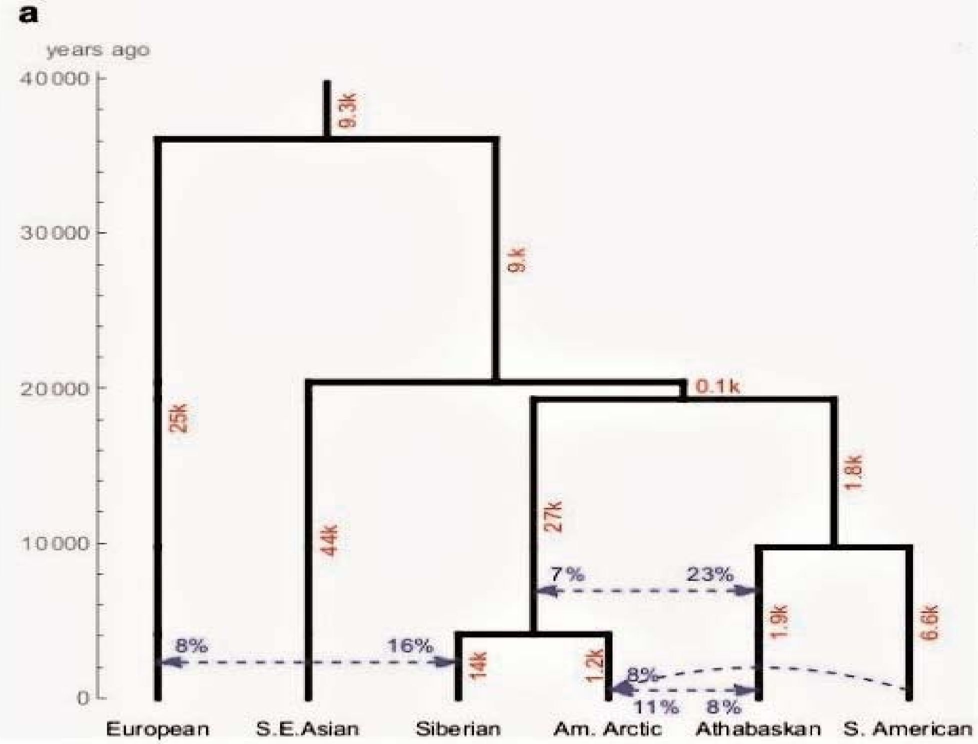


Fig. 5.



This Paleo-Eskimo migration originates in Central Siberia before spreading in the North-East of Siberia (Syalak culture between 6500 and 5200 years). Then part of this population forms the Bel'kachi culture between 5,200 and 4,100 years ago, still in northeastern Siberia, and another crosses the Bering Strait to arrive in Alaska 4,800 years ago.

THE PEOPLES OF ALASKA

The ancestors of the Alaskan natives migrated to the region thousands of years ago, in at least two different waves. Some are the descendants of the third wave of migration, during which people settled in northern North America. They never migrated to the southern regions. For this reason, genetic studies show that they are not closely related to the indigenous peoples of South America. The natives of Alaska came from Asia. Anthropologists have stated that their journey from Asia to Alaska was made possible by the Bering Land Bridge or by traveling by sea. Throughout the Arctic and circumpolar north, the ancestors of the natives of l Alaska have established a variety of complex indigenous cultures that have succeeded each other over time. They have developed sophisticated ways to cope with a harsh climate and environment, and cultures that are deeply rooted in the place. Historical groups were defined by their languages, which belong to several major linguistic families. Today, Alaskan natives make up over 15% of Alaska's population.

Below is a comprehensive list of the various native peoples of Alaska, which are broadly defined by their historical languages (within each culture are different tribes):

Béringian antique
Athabascans de l'Alaska
Ahtna
Deg Hit'an
Denaina
Gwich'in
Hän
Holikachuk
Koyukon
Bas Tanana
Tanacross
Haut Tanana
Haut Kuskokwim (Kolchan)
Eyak
Tlingit
Haïda
Tsimshian
INUIT
Iñupiat , un groupe inuit
Yupik
Yupik de Sibérie
Youpik
Cup'ik
Nunivak Cup'ig
Sugpiaq ~ Alutiiq
Chugach Sugpiaq
Koniag Alutiiq
Aléoute (Unangan)

The Dena'ina are the only northern Athabascan group to make a living from salt water, which has allowed them to have the most sedentary way of life of all the northern Athabascans. The Dena'ina were organized into regional bands or Ht'ana ("the people of [a place or region]"), which were made up of local bands. The regional bands had several villages or qayeh, each containing multi-family dwellings called Nichil. Each Nichil was headed by a qeshqa ("rich man" or "chief"). The men and women of the villages belong to their mother's clan. Villagers could only marry outside of their own clan and their own half, maintaining the diversity of the genetic heritage and the strength of the lineage of the village. Archaeological work suggests that the Dena'ina have occupied the Upper and Outer Cook Inlet areas for the past 1,000 years, migrating from the Mulchatna and Stony River areas, where they had lived for thousands of years before.

Les Yupiks

The Yupiks (Yup'ik in the singular and Yupiit in the plural in the Yupik language) are the natives who live on the southern half of the western coast of Alaska, especially on the Yukon-Kuskokwim Delta and along the Kuskokwim River (Yupiks du central Alaska), southern Alaska (the Alutiiqs) and on the eastern tip of Russia and St. Lawrence Island south of the Bering Strait (the Siberian Yupiks). The Yupiit are related to the Inuit and are members of the Inuit Circumpolar Council.

The Yupiks of the Yukon-Kuskokwim Delta live in richly vegetated subarctic tundra and numerous waterways that serve as communication routes. The lack of timber is made up for by the abundance of driftwood flowing down rivers in the spring.

The Yupiit of central Alaska are by far the most numerous Yupik group. Those who live on Nunivak Island are called Cup'ig; those who live in the village of Shevak are called Cup'ik.

Due to confusion among Russian explorers in the 1800s, some Yupiit living along the border with their Aleut relatives were called Aleut, or Alutiiq in Yupik. This denomination has remained in force. The Yupiit have designated themselves as such. The term consists of Yuk ("person") and the suffix -pik ("true").

Traditionally, families would spend the spring and summer at the fishing camp, then meet in the villages for the winter.

In the common house of men, the qasgiq, ceremonies and festivities took place, including songs, dances and oral traditions. Qasgiq was mainly used during the winter months, as groups of families tracked food sources throughout spring, summer, and fall. All the men and boys over the age of five sleep and live there. This system of common life allows intergenerational exchange and the maintenance of traditions through oral transmission. It is therefore the place where men teach young boys survival and hunting techniques. During the winter, the young people also learned how to make tools and kayaks.

These semi-underground houses are made of driftwood, insulated by humus and opened by a tunnel entrance. The internal organization is a reflection of the social organization of the group: the most important men are at the back, where it is hottest.

The organization of community or inter-community ceremonies is the only opportunity for women to enter them.

The women's house, the ena, was traditionally the neighboring house, and in some places the two dwellings were connected by a tunnel. Women taught young girls to sew, cook and weave. The boys lived with their mother until the age of five, then moved to the qasgiq. Every winter, for three to six weeks, boys and girls commuted, and men taught girls survival and hunting skills and tool-making, and women taught boys to sew and sew. to cook.

For the Yupiit, each being and each object has a soul, the "Yua", which deserves respect under pain of punishment and damage.

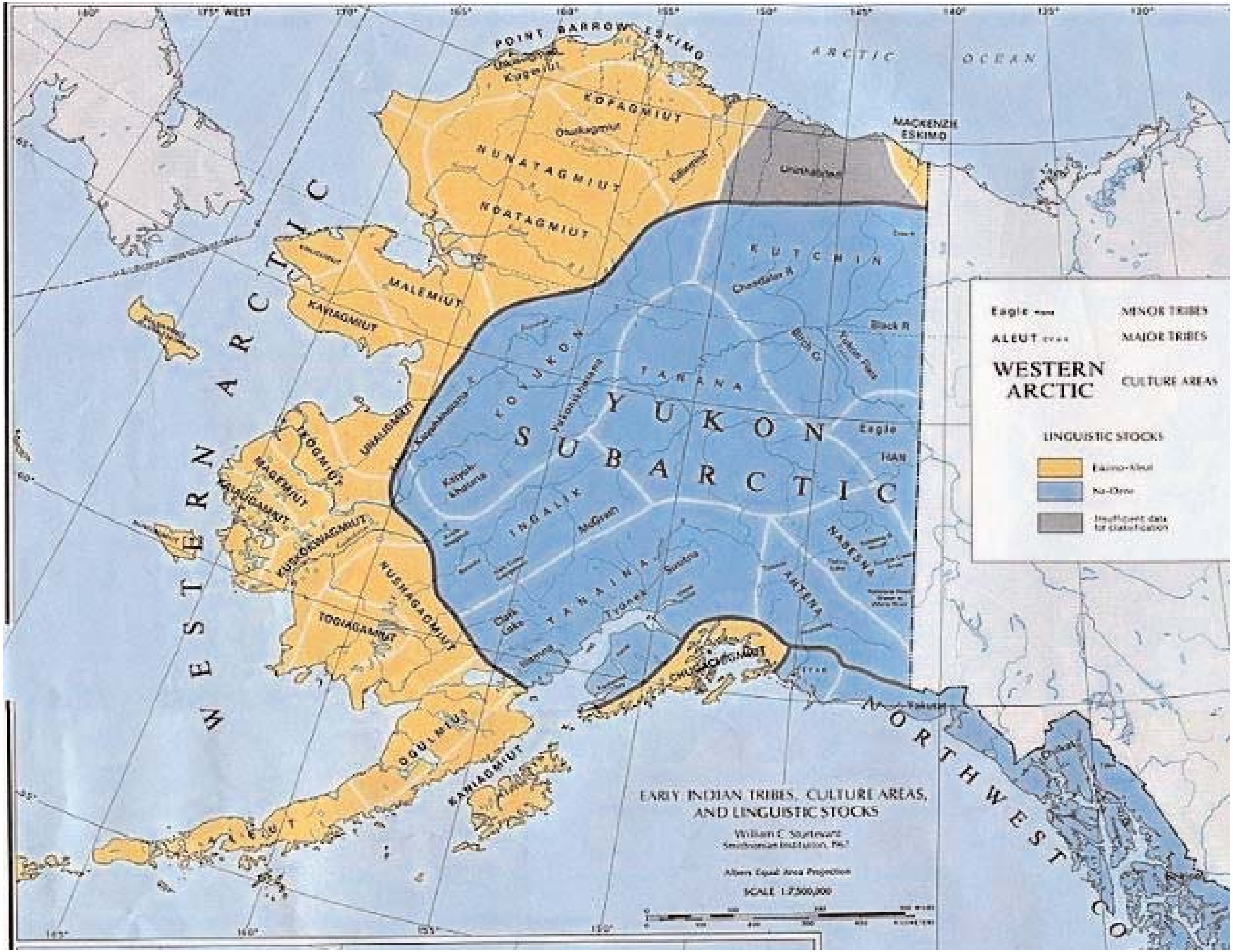
Many families have retained the traditional means of subsistence, especially salmon and seals. The Yupiks speak five distinct languages, which form a group attached to the Eskimo branch of the Eskimo-Aleut family.

In addition to clothing making, which is both a vital and virtuoso female production, the Yupiit are famous for their ceremonial mask making. Their appearance varies depending on their use, ranging from small finger masks to large masks requiring multiple wearers. However, there are standards that are strictly observed. Thus, the masks are created specifically for an occasion and according to the dream of the shaman: it is necessary that the spirit has appeared in order to be able to represent it correctly. If he does not make it himself, he tells the sculptor what to do.

Dena'ina
They are the original inhabitants of the south-central Alaska region stretching from Seldovia in the south to Chickaloon in the northeast, Talkeetnaau in the north, Lime Village in the northwest, and Pedro Bay in the southwest. The homeland of Dena'ina (Dena'ina Elnena) covers an area of over 41,000 square miles. They arrived in south-central Alaska between 1,000 and 1,500 years ago. They were the only Alaskan Athabaskan group to live on the coast. The Dena'ina culture is a hunter-gatherer culture and has a matrilineal system.

Yet even if the formal continuity is undeniable, each mask is unique and its manufacture is subject to the wishes and sensitivity of the sculptor. He draws from a common repertoire of forms but appropriates them and adapts them. The Yupiit could therefore in a mask recognize the vision and style of a sculptor. Until recently, a man's ability to sculpt a mask was considered as fundamental as the ability to eat and breathe. The most gifted had the privilege of being entrusted with the realization of the masks for the shaman.

The manufacture began with the collection of wood, specifically recovered for the occasion and subjected to particular rites, in order to respect the Yua. The sculptor then followed the shaman's instructions for the shape of the object, then painted it and finished by adding the various reported elements. To paint the mask was to make it visible to the spirit world, and despite the arrival of chemical dyes sold by Westerners, the Yupiit mostly remained faithful to natural pigments. These were often burned after the ceremonies, hence the scarcity of archaeological traces.


EARLY INDIAN TRIBES, CULTURE AREAS, AND LINGUISTIC STOCKS

William C. Sturtevant
Smithsonian Institution, 1967

Albers Equal Area Projection

SCALE 1:7,500,000

INGALIK

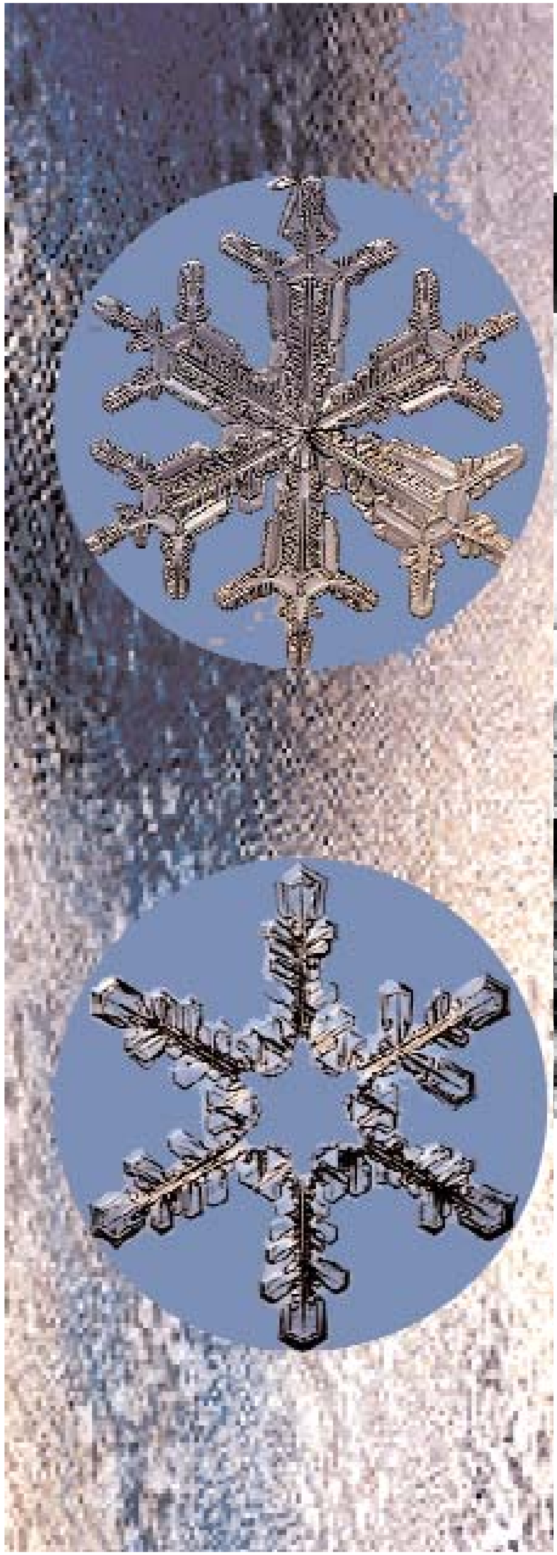
The Ingalik, a people living along the Upper Kuskokwim and lower Yukon River, as well as its tributaries, the Anvik and Innoko, within present-day Alaska, were the most ancient Athapaskan speaking peoples. Where is. To the west and north were the Inuit, who gave Ingalik (pronounced ING-guh-lick) its tribal name and has survived history.

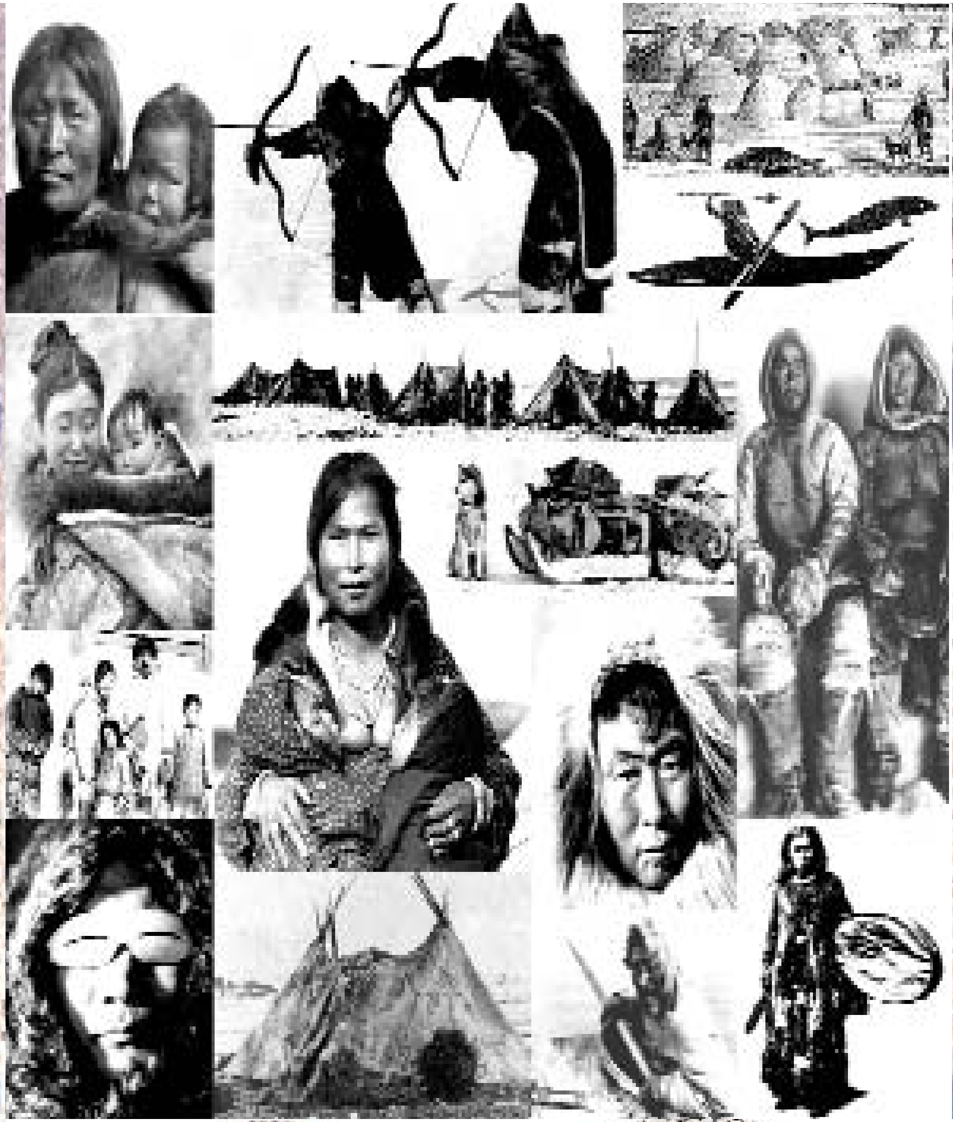
Semi-underground mud houses similar to those built by Westerners were mainly used in winter. Summer residences were houses built of planks of spruce or bark or poplar, logs and temporary brush shelters. Each village typically had a common house for men, a large structural room with a central fireplace and benches along the walls, used as a ceremonial and counseling center as well as a sweathouse, a sauna similar to the Inuit kashim.

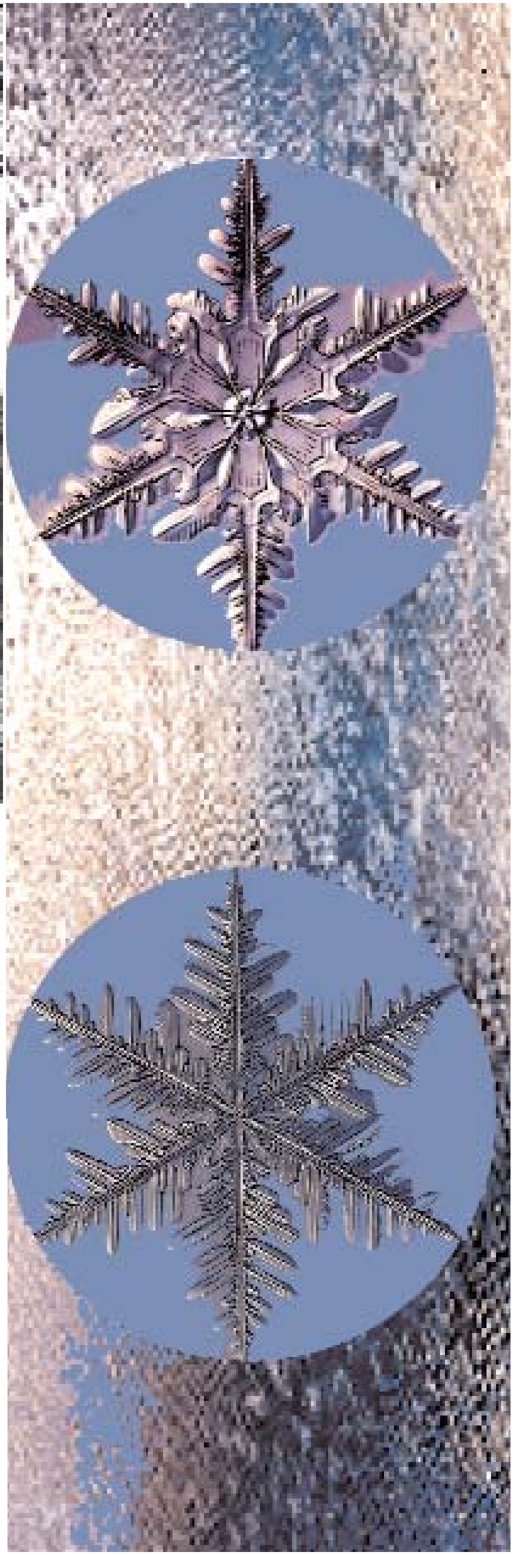
Ingalik parkas, pants and boots, made from animal skins, resembled those of the Inuit, as did their harpoons. their thrusters, sleds and snowshoes. Except that generally birch bark canoes were used rather than boats covered with typical Inuit skins. Unique to peoples of the region, they made wooden dishes and bowls for the trade with other tribes.

They depended on hunting, fishing, and gathering for their livelihood, as did other people in the region, but their location along the rivers where regular salmon runs take place meant that they could keep a large community alive without the village, much more than the Subarctic Indians farther inland could. Yet the Ingalik also stalked game such as caribou and moose in the mountain forests to the east of their territory.

The Ingalik saw the universe as four levels, the Earth, the sky, an upper underworld and a lower underworld. which they called "fish tail". All the elements of nature, according to their beliefs, possessed spirits or yegs. When a human dies, his yeg usually went to the upper underworld where the culture hero Raven lived, and others provided to go to "high in the sky" or "fishtail" depending on the type of. death. Ingalik ceremonies, led by shamans, included a ceremony with animal sacrifices every two weeks and a potlatches-like giving ceremony each season.







THE GENOMIC TRAINING OF THE ANCESTORS OF THE FIRST AMERICANS IN NORTHEAST ASIA

The origin of the population of the Americas is the subject of intense debate in the field of archaeogenetics. Two recent findings are important in this debate. The individual Upward Sun River 1 (USR1) from a double burial of children in Alaska and dated around 11,500 years ago represents a hitherto unknown lineage that diverged from any Native American population between 22,000 and 18,000 years ago, and before the separation between the two main branches relating to the Amerindians of the North and the South which would have diverged between 17,500 and 14,600 years. Two other individuals from the archaeological sites of Duvanny Yar (Kolyma1) in northeastern Siberia, dated 9,800 years old and Ust'-Kyakhta-3 in the Lake Baikal region, dated 14,000 years ago would also represent populations originally from the settlement of the Americas and which would have diverged from the Amerindian populations before the individual of Upward Sun River. Additionally, six early Neolithic individuals from Devil's Gate Cave in the Amur River basin show genetic continuity in this region to date and with a majority of present-day populations in Siberia.

Among these twelve individuals, six were eliminated due to contamination. Among the last six individuals, only three do not have West Eurasian ancestry: two individuals from the Early Neolithic and one from the Iron Age.

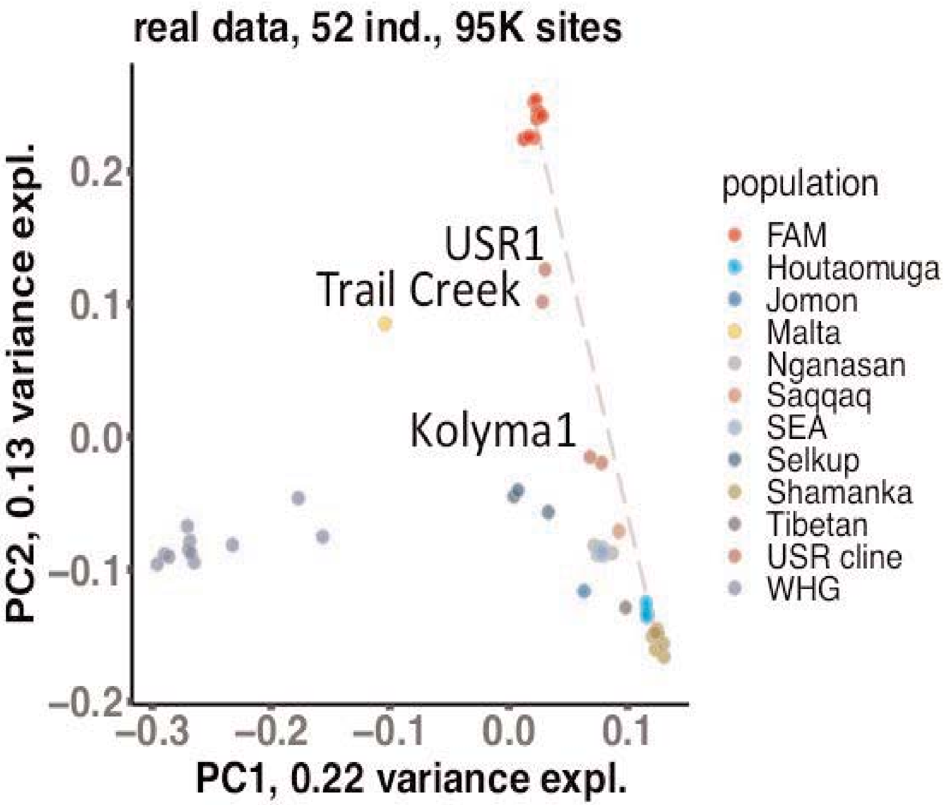
The authors performed Principal Component Analysis to compare the genome of these individuals to that of other ancient or contemporary individuals. In the figure below, the western hunter-gatherers (WHG) are located on the left (gray disks), the early Americans (FAM) at the top (red disks) and the individuals of Houtaomuga at the bottom right (disks cyan), close to other populations of the Amur Basin region:

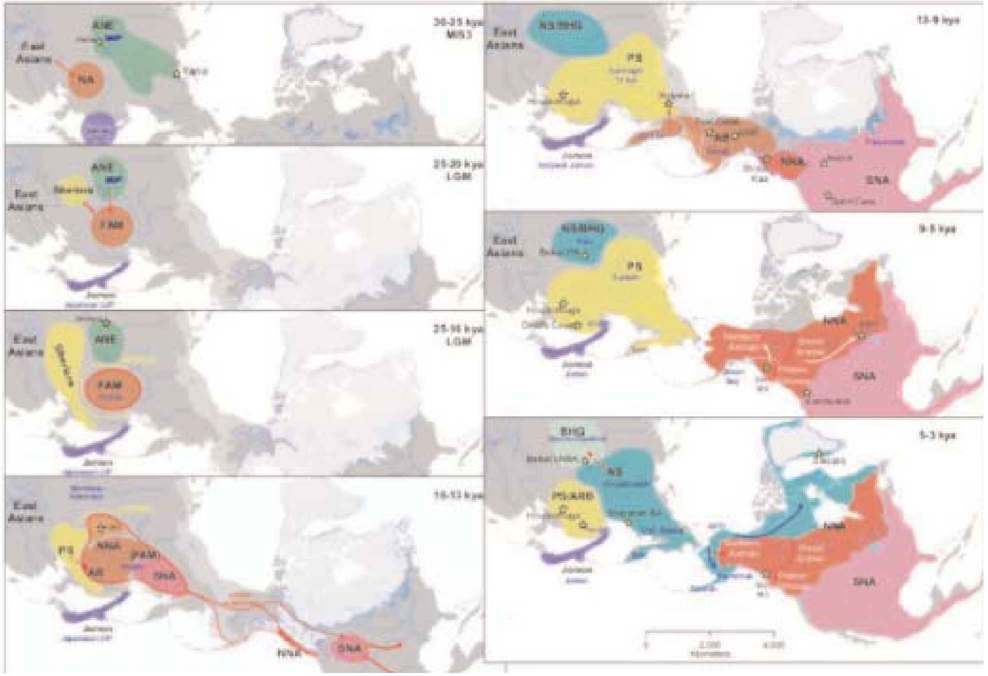
Interestingly, the two individuals USR1 and Kolyma1 fall between the Early Americans and the populations of East Asia. Interestingly, the two individuals USR1 and Kolyma1 fall between the Early Americans and the populations of East Asia. The authors then used the qpAdm and qpWave software to construct a demographic graph to highlight the different genetic mixtures:

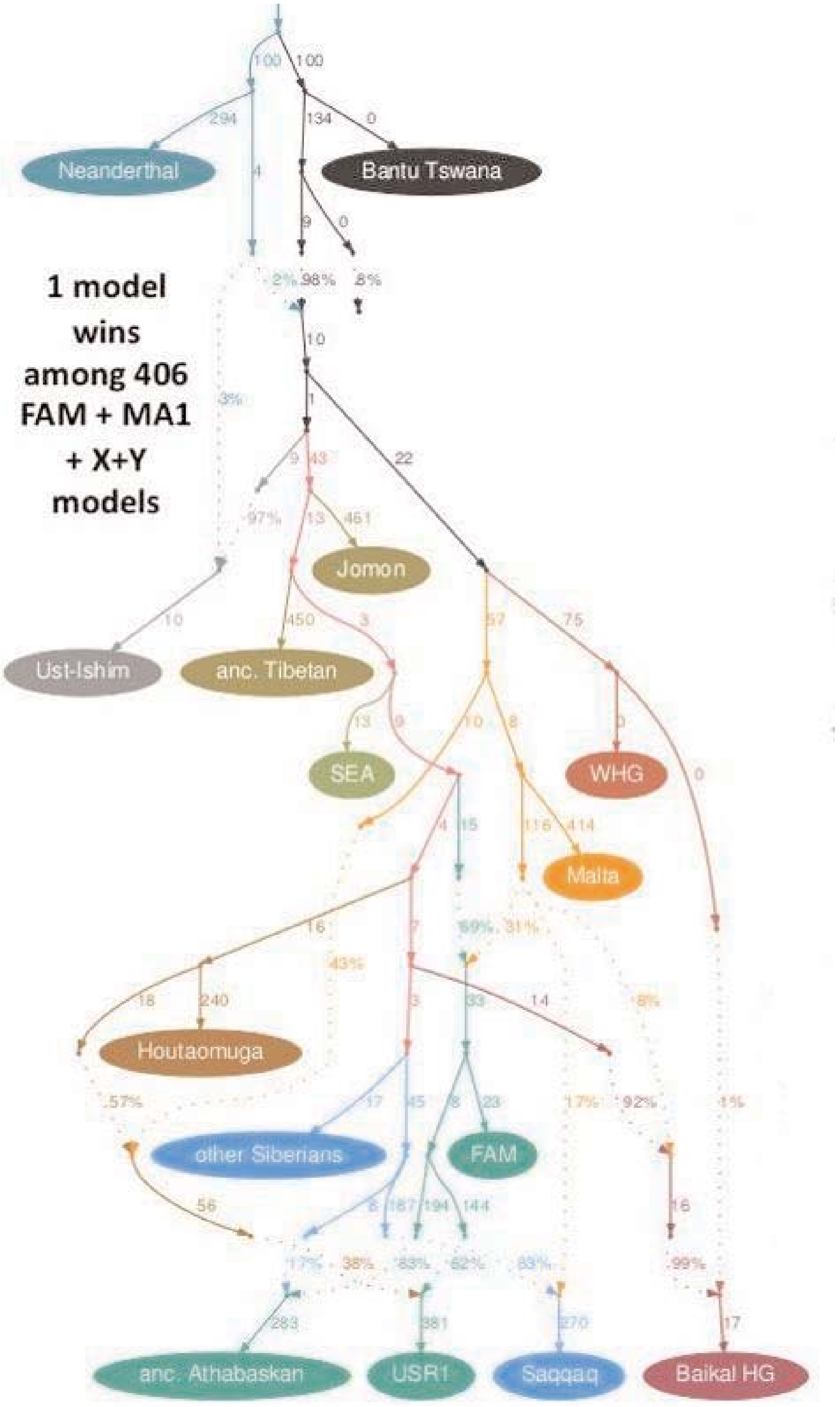
According to this model, the individual USR1 would come from two ancestral sources. The first includes a mix between the First Americans and a population close to the boy of Mal'ta (ANE). The second source includes another population close to the boy from Mal'ta and a population close to individuals from Houtaomuga. This last component represents between 6 and 35% of the genome of USR1.

Interestingly, the First Americans and the individual USR1 are not part of a single branch. The Native American source in individual USR1 belongs to the Native American North branch only. In addition, there is no gene flow from a population close to the Mal'ta boy in the common ancestor of USR1 and the First Americans. In conclusion, the most probable interpretation of these results is that the divergence between the North and South Amerindian branches occurred in Asia immediately after the end of the Beringian isolation which in fact must have taken place outside Beringia:

This model explains the presence of the Amur River basin signal among the ancient Beringians without invoking several passages through the Bering Strait for which there is no clear archaeological evidence. The authors assume that the South Amerindians were the first to cross the Bering Strait, followed by the North Amerindians who had time before to interact with the populations of the Amur Basin. This hypothesis also facilitates the interaction with the Y population close to the Onges or the former Tianyuan individual and identified in the genome of some Amerindian populations.







**1 model
wins
among 406
FAM + MA1
+ X+Y
models**

American migration from Bering

The Northwest Coast Cultural Zone follows the northwest coast of North America and extends somewhat inland along the Nass and Skeena Rivers and the Fraser River in British Columbia. The best-known hypothesis would suggest that the tribes of Mongolia and Siberia, in small groups of hunters, had migrated from Asia through the Bering Strait (named after Vitus Behring, a Danish navigator paid by the Russians who explored the region in 1728).).

After the retreat of the glaciers (8000 years before our era) towards the North Pole, the natives would have returned to the North to repopulate a large part of the North American territory. About 8,000 years ago, there was a significant increase in demographics linked to global warming and the domestication of cassava, squash and sweet potatoes. Then the US population remains constant until about 3,000 years old when a second period of expansion begins.

They are said to have populated the entire continent along the Pacific coast to the southern tip of South America, where the Incas and Aztecs, for example, created great empires. Other groups of hunters are said to have moved north to the Great Lakes and beyond, extending to the Atlantic Ocean. These Mongoloid populations have always been considered today as the ancestors of all Native Americans. They left traces of a culture called "Clovis hunters", named after a town in New Mexico where, in 1932, arrowheads and tools cut according to a very particular technique were discovered.

Subsequently, similar traces have been found at hundreds of other sites in southern Canada, the United States and as far away as Panama. For a long time, all of Amerindian prehistory was based on this double observation: the American continent had only been inhabited for 24,000 years and all current Amerindians necessarily descended from these Mongoloid peoples who came from Asia. The geography of the region, with its bays, fjords and archipelagos cut into steep rocks that become coastal mountains, offers many sheltered spaces to build villages, while forcing its inhabitants to adopt a maritime lifestyle. The first human settlements on the northwest coast probably date back to around 14,000 years, the period following the last ice age. Hunting and gathering are the foundation of societies, and the most valuable resources are salmon (for food) and cedar (for construction, crafts and technology). Secure regions and abundant resources give rise to permanent settlements of remarkable wealth and political complexity, despite the absence of an agriculture-based economy. Some archaeological finds, including artistically carved tools and decorative objects thousands of years old, suggest to archaeologists that spiritual and artistic traditions such as the potlatch have been preserved on the Northwest Coast for over 5,000 years. .

Food and economy

Fishing, hunting and gathering are the livelihoods on the northwest coast. The resources of the sea, in particular, are of the utmost importance. The circuits of the Pacific salmon, which follow their migrations and allow the capture of salmon which will be consumed fresh or dried throughout the year, are at the center of the concerns. Fishermen adapt their tools, such as nets, traps and landfills, to different sea and river conditions, as well as to the presence of different species of local fish. They employ different techniques, such as trolling or jigging, using hooks loaded with bait to fish; we also spear or spear in the streams.

Hunters capture land mammals, including white-tailed deer, bears, elk (elk) and mountain goats, using bows and arrows, traps, stunners and nets. Marine mammals, including seals, whales and porpoises, they are speared in water and nets when the animals venture onto the shore. Abundant waterfowl are caught using a multitude of nets.

The different peoples supplement their diet with crustaceans, berries, edible roots, bulbs and green shoots. Men and women together make the tools they need. Since all types of food sometimes accumulate in amounts too large for their immediate needs, they often save food for more frugal periods. The men bring most of the fish and game, while the women cook and preserve the meat.

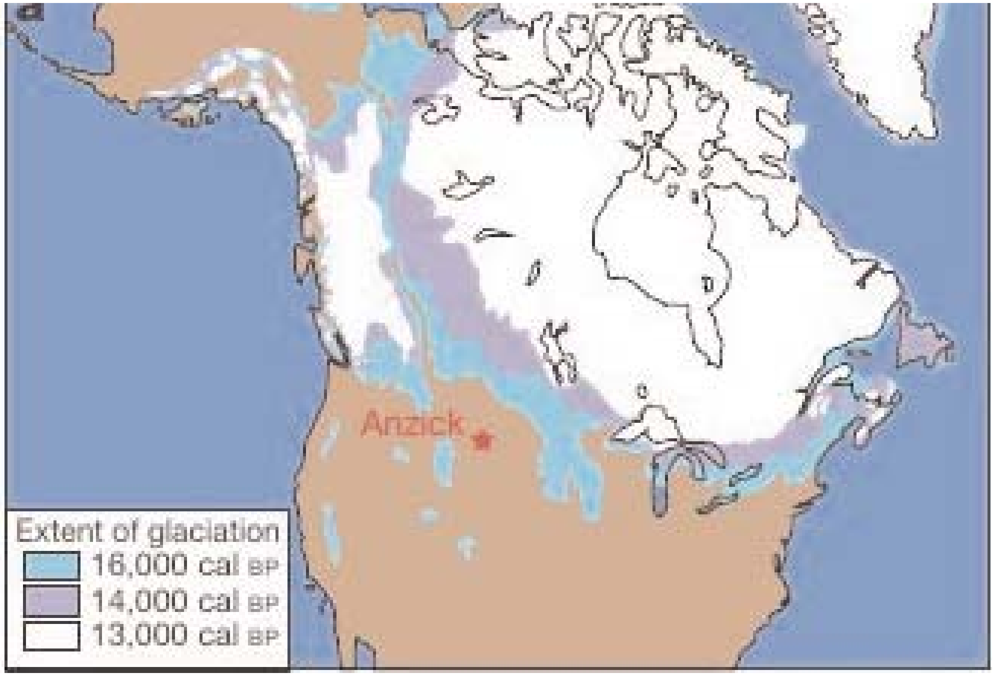
Accommodation and transportation

The indigenous peoples of the northwest coast generally take refuge in winter in large beam and post structures. Called "plank houses", these structures are covered with cedar planks decorated in a distinctive way according to the regions. Cedar is a coveted wood because its long, straight grain is ideal for woodworking, both artistically and utilitarian. Carpentry is a man's job; With stone or shell blades, wooden wedges and stone hammers, they make plank houses, but also all kinds of everyday objects. For example, artisans make many jagged canoes, which allow them to move through fast streams and out to sea.

Society

The basic social unit, all over the Northwest Coast, is a large group of people who generally have common ancestors. Among the Nordic peoples, clan membership is usually passed down through the mother, but in the south it can be claimed by virtue of paternal or maternal lineage. In both regions, therefore, there is a tight-knit family group that lives with its spouses in a house or in a group of houses, guided and directed by competent leaders. These leaders have an official title or inherit an important name within the lineage and are responsible for the organization of family assets, including intangible assets such as names, the performance of rituals, special songs or occult knowledge. The real wealth, however, is the absolute dominance over such properties as building land, gathering places, hunting grounds, seal colonies or capture areas. Although some areas and waters belong to everyone, the most resource-rich sites are private. However, community sharing of food remains essential.

The Clovis culture is at the origin of Contemporary Native Americans



Morten Rasmussen has just published a paper concerning the genome of a Clovis culture skeleton buried in Montana: The genome of a Late Pleistocene human from a Clovis burial site in western Montana.

The only known burial associated with the Clovis culture with a mortuary assemblage is the Anzick site in Montana. A hundred stone tools and 15 bone tools from the Clovis culture are associated with the burial of a young boy aged 1 to 2 years. The human remains were located just below the artifacts and were covered in red ocher. Radiocarbon dating has estimated the age of this burial to be between 12,707 and 12,556 years:

Mitochondrial DNA testing has shown that the backbone belongs to haplogroup D4h3a. It is a lineage specific to Native Americans distributed today along the Pacific coast of North and South America. Its current distribution suggested a coastal migration route. Its discovery in Montana on a 12,600-year-old skeleton calls this hypothesis into question. The age of this haplogroup has been estimated to be around 13,000 years, which corresponds well to the age of this skeleton.

Nuclear DNA sequencing was done with a coverage rate of 14.4. DNA testing of the Y chromosome showed that the backbone belongs to haplogroup Q-L54 * (xM3) which is also specific to Native Americans. The age of divergence between branches Q-L54 * (xM3) and Q-M3 is estimated at around 16,900 years, knowing that modern sequences have accumulated on average 48.7 transversions from this node of the phylogenetic tree, and that Anzick's skeleton has accumulated 12.

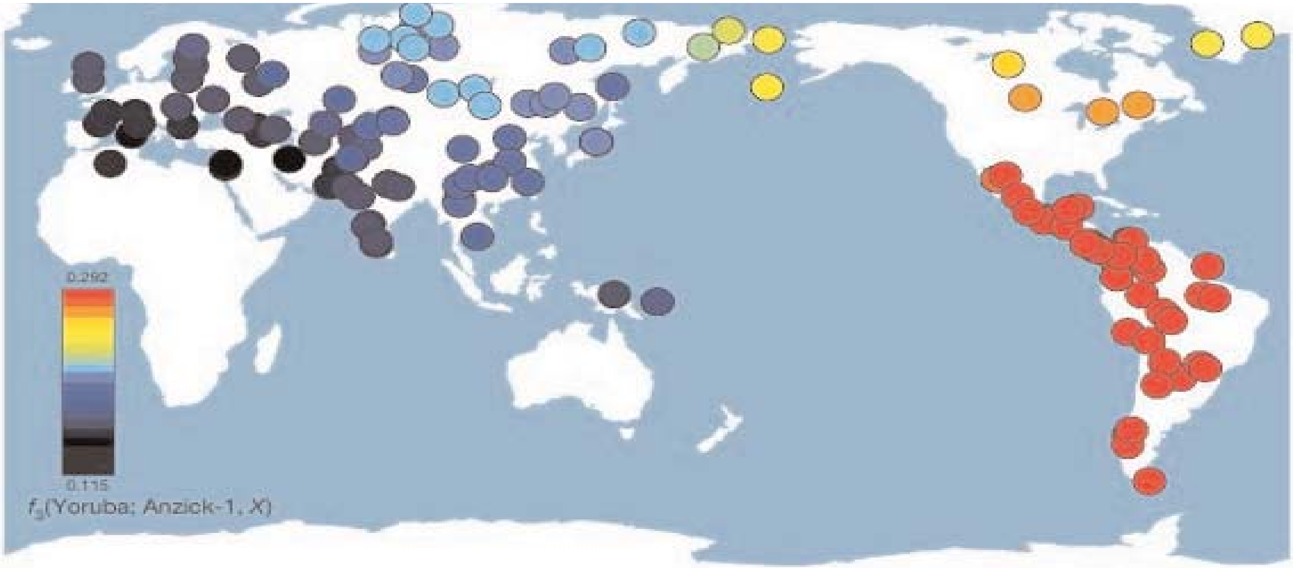
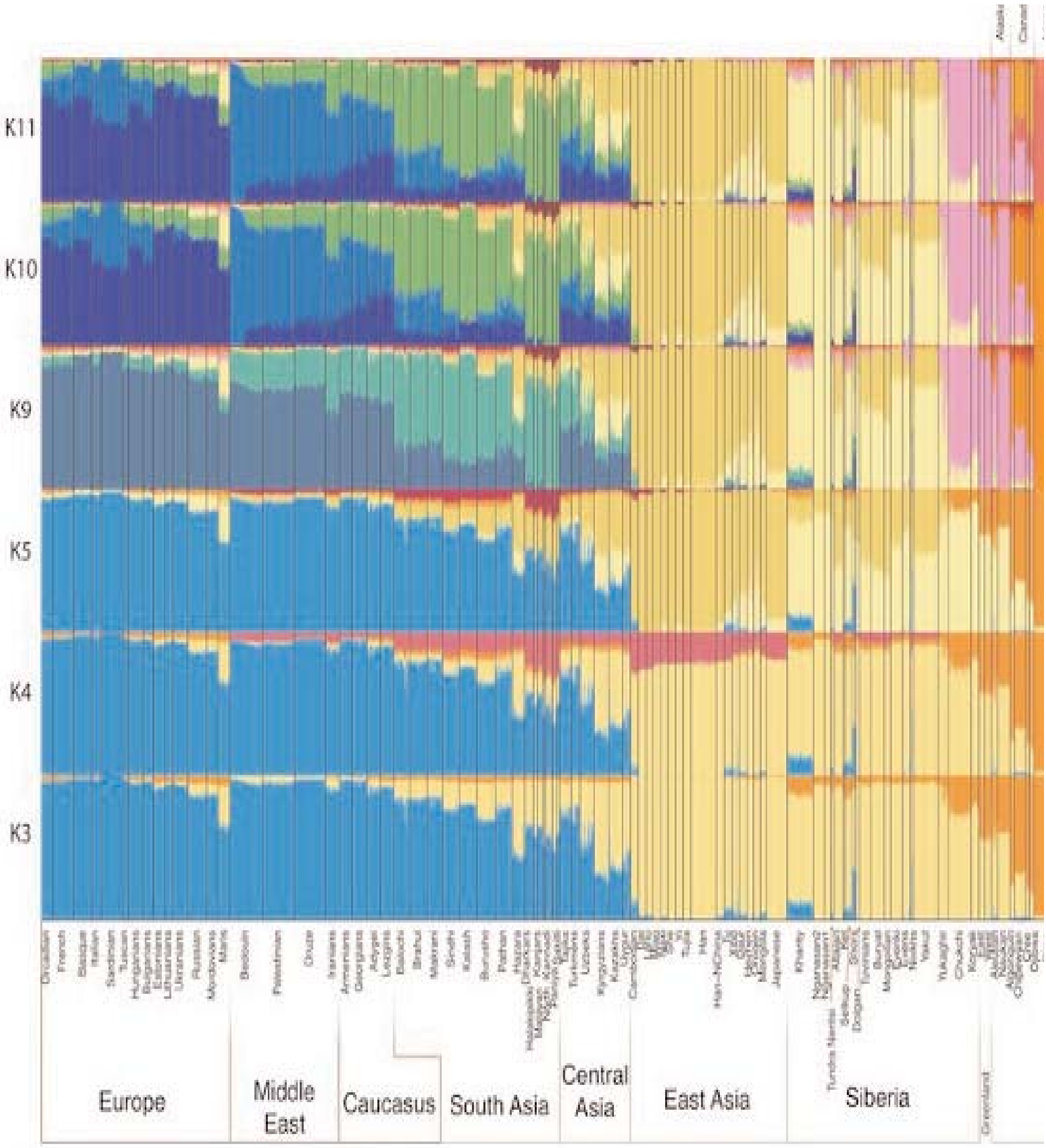


Figure 2 | Genetic affinity of Anzick-1. **a**, Anzick-1 is most closely related to Native Americans. Heat map representing estimated outgroup f_3-statistics for shared genetic history between the Anzick-1 individual and each of 143 contemporary human populations outside sub-Saharan Africa. **b**, Anzick-1 is less closely related to Northern Native American populations and a Yaqui

individual than to Central and Sout
Karitiana. We computed *D*-statistics
X) to test the hypothesis that a secor
closely related to Anzick-1 as the Sou
whiskers represent 1 and 3 standard

The Anzick genome was compared to 143 contemporary non-African populations, including 52 Native American populations. The skeleton of the Clovis culture is thus much closer to Native American populations than to others:



Shown are results from one of the converged runs at each K. We note that the model at K = 11 was found to have th the lowest cross validation index values (see Supplementary Information). At each K each sample is represented by Anzick-1 are magnified and presented horizontally at the top. Note that irrespective of the number of genetic compor shares all the components present in different contemporary Native American populations.

Interestingly, Anzick's individual shows less genetic affinity with populations of North America and the Yaqui of Central America than with populations of South and Central America (see Figure 2b below). There are two possible scenarios to explain this data:

§ the diversification between North Americans and South Americans is older than the Clovis culture, with Anzick's individual belonging to the South American lineage.

§ Anzick's individual corresponds to the time of the separation between North Americans and South Americans, but the populations of North America subsequently received an external gene flow, probably from Siberia.

However, the authors of this study did not find any external gene flow in North American populations, which supports the first hypothesis. Thus the structuring of Native Americans would be older than the Clovis culture.

The authors then compared the genome of the skeleton of Anzick with on the one hand the Native American populations and on the other hand the skeleton of the boy from Mal'ta in southern Siberia. The results showed that gene flow from the Mal'ta boy lineage in the Native American population predated the divergence between the North and South American lineages. Finally, the authors have shown that Anzick's skeleton was a direct ascendant of the Karitiana populations in Brazil and Maya:

In conclusion, it can be said that Anzick's boy of the Clovis culture belonged to a population of which many present-day Native Americans are descendants. So today's Native Americans are descendants of the people who produced the Clovis culture. The latter is therefore not the result of a Solutrean migration from Europe.

AIRES AMÉRINDIENNES GÉO-CULTURELLES DU NORD AU SUD

(Indiens subarctiques)

Ahtena
Castor (Tsattine)
Béothuk
Transporteur (Dakelh)
Chipewyan
Chippewa (Ojibway)
cri
Dogrib
(Thlingchadinne)
Han
Lièvre (Kawchotinne)
Ingalik
Koyukon
Kutchin
Montagnais
Naskapi
Esclave (Etchareottine)
Tanaina
Tanana
Yellowknife (Tatsanottine)

The first peoples of North America developed the Paleo-Indian tradition. Paleo-Indians are hunters of large wild mammals, such as mammoths, mastodons and giant sloths. These Paleo-Indians live in small isolated bands of about 15 to 50 people. They survive by collecting wild plant foods and hunting game, using simple tools. Within the tradition emerge several cultures, including the Clovis (9200 to 8900 BC) and Culture of Folsom (8500 to 8000 BC), which are characterized by innovations in manufacturing. projectile points - the stone points on Paleo-Indian hunting tools. The Paleo-Indian tradition will slowly fade as the climate of North America warms. Rising temperatures will kill many large game animals and at the same time provide the first Indians with new species of flora and fauna to use as food sources.

(Indiens de la côte nord-ouest)

Bella Coola
Quinnat
Roucoule
Cowichan
Duwamish
Haïda
Kalapuya
Kwakiutl
Maka
Nisqually
Nootka
Puyallup
Quileute
Quinault
Squaxon
Takelma
Tlingit
Tsimshian
Umpqua
Yaquina

The first Indians of the Northwest developed the ancient Cordillera culture. Cultures of the Old Cordillera are emerging among the Indians of the Columbia River Valley (Washington and Orego). Culture is characterized by various strategies for obtaining food. The ancient Indians of the Cordillera used willow leaf-shaped projectile tips to hunt small animals, make fish hooks, and make other simple tools to prepare plants for eating.

Les Indiens du Nord-Ouest apprennent aussi à conserver le poisson. Cette capacité leur permet de préserver les milliers de saumons et autres poissons pêchés durant la montaison lors des migrations annuelles vers les lieux de frai pour une utilisation à d'autres moments de l'année.

(Indiens de Californie)

Achomawi (Indiens de la rivière Pit)
Cahuilla
Chimariko
Chumash
Costanoan
Cupeño
Diegueño (Tipai-Ipai)
Esselen
Gabrieleño
Hupa
Karok
Luiseno
Maidu
Miwok
Pomo
Salinas
Shasta
Tolowa
Wintun
Yahi
Yokuts
Yuki
Yourok

The Indians of the Northwest also learned to conserve fish. This ability allows them to preserve the thousands of salmon and other fish caught during the run on annual migrations to spawning grounds for use at other times of the year.

The first Indians of the Folsom tradition settled in present-day Lindermeier, Colorado, which would become one of the first Paleo-Indian sites to be excavated. The people of Lindermeier spend much of their time in small groups moving from place to place following the herds of bison. These roaming bands stretch for hundreds of miles from Lindermeier. In addition to the distinctive Folsom character with their projectile tips, the people of Lindermeier make fine knives, drills for drilling holes in wood and stone, and scrapers for preparing animal skins. Some of them are made from obsidian, a rock of volcanic material found over three hundred miles away. These objects testify to the participation of the Lindermeier Indians in a vast commercial network.

(Indiens du Grand Bassin)

Bannock
Paiute
Shoshone
Ute
Lave-linge

The end of the last ice age causes dramatic changes on the North American continent. As the earth's atmosphere warms, runoff from melting glaciers creates the Great Lakes, the Mississippi River, and other waterways.

(Indiens des plaines)

Arapaho
Arikara
Assiniboine
Pieds noirs
Cheyenne
Comanche
Corbeau
Gros-Ventre (Atsina)
Hidatsa
Ioway
Kaw
Kiowa
Mandan
Missouria
Omaha
Osage
orteil
Pawnee
Ponça
Quapaw
Sarcee
Sioux (Dakota, Lakota, Nakota)
Tonkawa
Wichita

The Folsom culture thrives in the Grande Plains region and parts of the Southwest.
The Paleo-Indians create a cultural tradition based on buffalo hunting as the Indians' prey survived climate change in North America by becoming herbivores that feed on the grasses that have grown in the Great Plains.

Folsom Hunters develop a shorter and narrower projectile than their Clovis predecessors. With grooves on both sides, these delicate points are also much more carefully crafted, making the Folsom peoples perhaps the most skilled stoneworkers in all of ancient North America. In addition to stalking bison on foot, Folsom's small hunting bands often gather to join in communal hunts, in which they lead bison herds to natural enclosures and then slaughter the trapped animals with their spears.

(Indiens du Nord-Est)

Abénaquis
Algonquin
Chippewa (Ojibway)
Érié
Huron (Wyandot)
Illinois
Iroquois (Haudenosaunee)
Cayuga
Mohawk
Oneida
Onondaga
Sénèque
Tuscarora
Kickapoo
Lenni Lenape (Delaware)
mahican
Malécite
Massachuset
Menominee
Meskwaki (Renard)
Miami
Micmac
Mohégan
Montauk
Nanticoke
Narragansett
Neutre
Niantic
Nipmuc
Ottawa
Passamaquoddy
Pennacook
Penobscot
Péquot
Potawatomi

The archaic tradition characterized by greater variation in strategies for obtaining food supersedes Paleo-Indian cultures.

Archaic Indians adapt to a wide variety of new environments and learn to exploit food sources available in each of them. Depending on their environment, some come to rely on wild plant foods, others on fishing, some on hunting, and some on a combination of these activities. These varied foods allow Archaic Indians to protect themselves from food shortages more effectively than their Paleo-Indian ancestors could. The first archaic Indians are starting to experiment with growing plants found in the wild, such as beans, pumpkins, peppers and gourds. At this stage, the primitive agriculture of the Indians and their hardy methods produce only a small amount of food - perhaps as little as 5 percent of their diet. Their main sources of food remain hunting wild game and gathering wild plants.

In the east, the archaic tradition will be replaced by the Woodland tradition (1000 BC to 1600 AD), which is distinguished by a greater reliance on agriculture, pottery crafts, and the construction of burial mounds.

The growth of populations will follow that of the increase in food reserves. Archaic villages become cities sheltering thousands of families.

Powhatan
Roanoké
Sac
Shawnee
Susquehannock
Tionontati
Wampanoag
Wappinger
Winnebago (Ho-Chunk)

(Indiens du Plateau)

Cayuse
Coeur d'Alène
Colombie (Sinkuse)
Tête plate
Kalispel
Klamath
Klickitat
Kootenai
Modoc
Nez Percé
Ntlakyapamuk (Thompson)
Okanagan (Sinkaietk)
Palouse
Umatilla
Spokan
Stuwihamuk
Walla Walla
Wanapam
Wishram
Yakama

The culture of Old Copper is emerging in the Great Lakes region. Archaic Indians (8000-1000 BC) in the Great Lakes region developed "Old Copper culture" after discovering copper deposits on the shore of Lake Superior. Using simple tools, these people are able to easily dig up copper into pieces. They learn to shape metal, first by chipping and hammering, later by heating the copper to make it more malleable. From this raw material the Indians create tools and weapons, such as projectiles, ax points and blades, as well as shiny bracelets, beads and other ornaments. These items will become valued as luxury products (wampum) in a commercial network that will develop throughout the wooded region of the East.

(Indiens du sud-est)

Alabama
Apalachee
Atakapa
Caddo
Calusa
Catawba
Chitimacha
Choctaw
Coushatta
Ruisseau
Lumbee
Mobile
Natchez
Séminole
Shakori
Timucua
tunique
Yamasee
Yazoo
Yuch

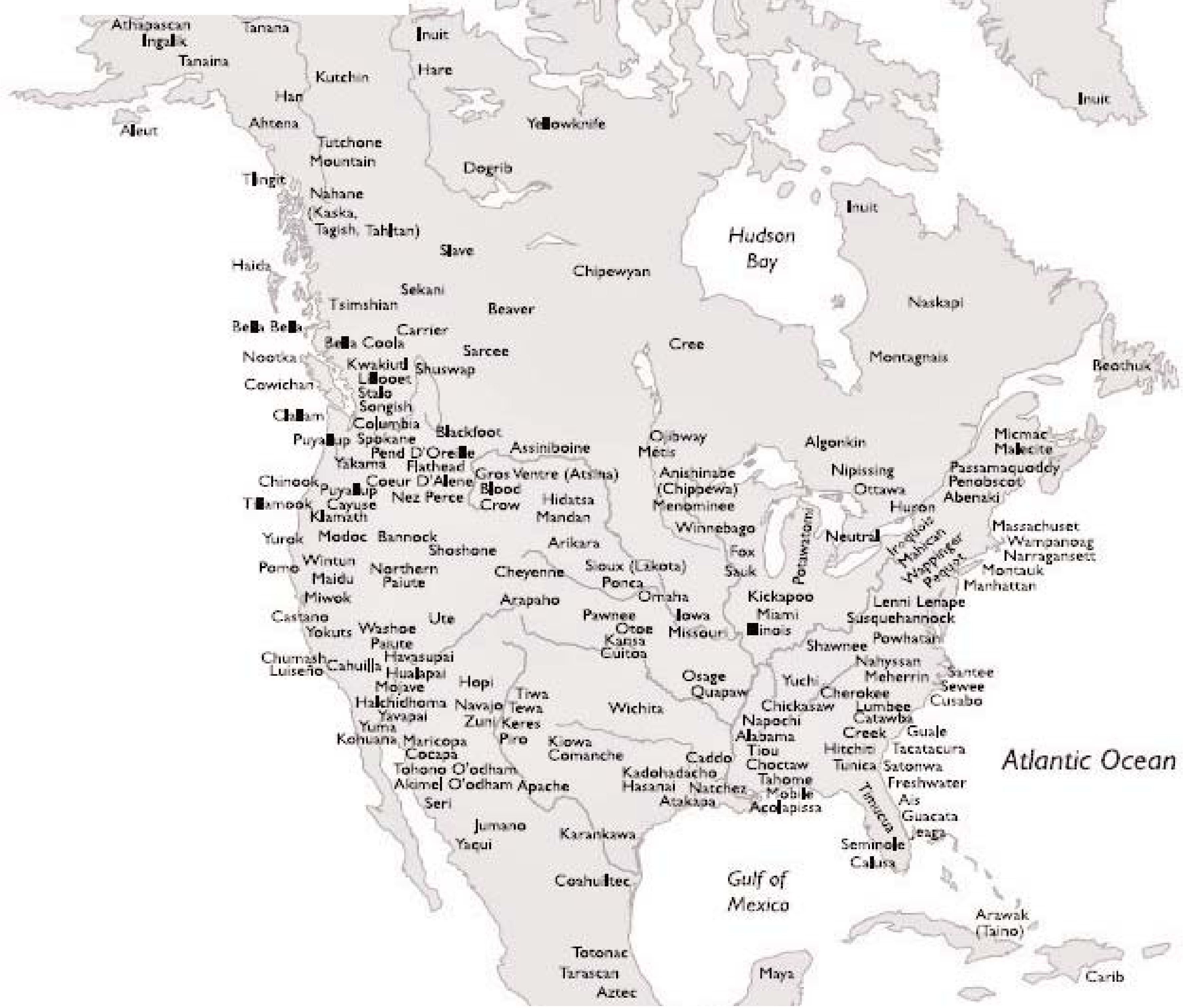
The Adena culture emerges in small colonies of what is now southern Ohio and parts of present-day West Virginia, Pennsylvania, Kentucky and Indiana. Adena's most distinctive feature is the construction of mounds in the shape of circles, squares and pentagons. The Adena people built between 300 to 500 mounds. The contents of the mounds provide evidence that the structures were built for religious reasons rather than defensive purposes. Used for corpse burials or cremated remains, many contain luxury items for the dead to take with them to the afterlife. These items include neck ornaments, slate pipes for smoking tobacco, and stone tablets engraved with designs and shapes of animals that may have been used as stamps for body tattooing.

(Indiens du sud-ouest)

Akimel O'odham (Pima)
Apache
Coahuiltec
Havasupai
Hopi
Hualapai
Karankawa
Keres
Mojave
Navajo
Indiens Pueblo
Tewa
Tiwa
Tohono O'odham(Papago)
Towa (Jemez)
Yaqui
Yavapai
Yuma (Quechan)
Zuni

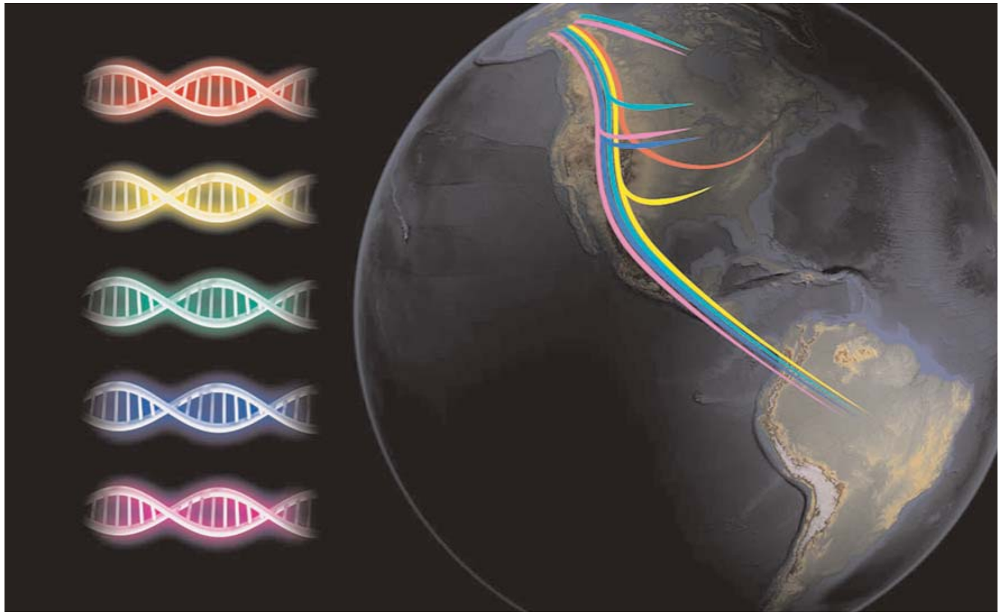
The first Indians of the Southwest began to plant fields of corn, which was first domesticated in Mexico at least three millennia earlier (5,000 BC). Initially, corn supplements the food obtained by hunting and gathering. A new species of maize, a hybrid species, crossed with wild grass that produces much larger ears with more rows of kernels, is spreading rapidly in the region. Maize cultivation, therefore, is transforming the way of growing. Indian life. Instead of living in small mobile bands, they began to settle in larger, more permanent villages.

Peuples autochtones du Canada -USA



THE AMERINDIANS OF CANADA

By comparing this ancient DNA with that of present-day indigenous populations, the researchers established that the indigenous peoples of the Americas belong to five great lineages scattered throughout the land, all of which came from one and the same origin.

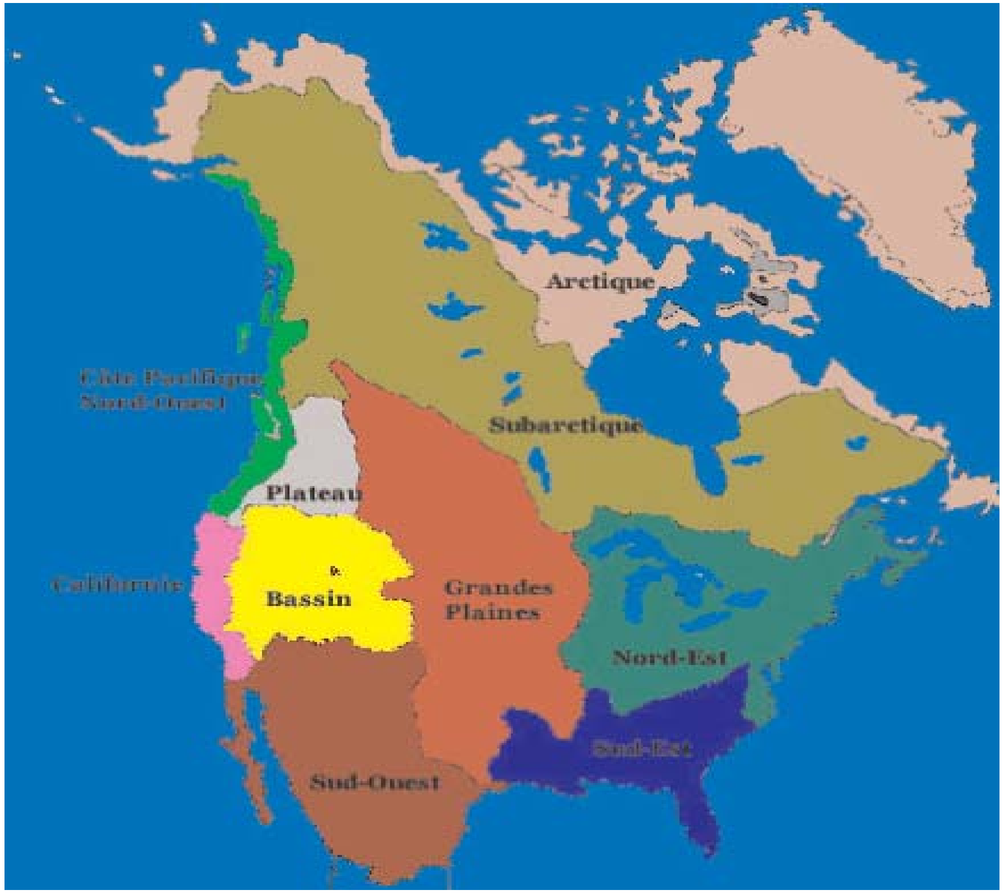


"All of the lineages present in the indigenous populations of the Americas are from ancestral lineages found in Asia. But these American lineages themselves are not present in Asia. So it appears that they arose in a population of Asia. origin which diverged from an ancestral Asian population, then which dispersed mainly in America ", explains Dennis O'Rourke, genetic anthropologist.

The results point to the north to locate this famous original population. A few thousand individuals, who could have arrived in Beringia over 24,000 years ago - 40,000 years AA.

- AA corresponds to "before today" before the current one, that is to say the number of years elapsed from a constant point of reference fixed by convention to the year 1950 of our era.

The Paleoindians first settled in the great plains of the American West, where they invented the fluted projectile point, specific to the Clovis culture. Then from there they spread this culture across America by migrating east.



During the last millennia of the Ice Age, human populations from the American West began a great migration, south to Mexico, southeast to Florida and east to New -Scotland. Indigenous peoples of Canada, ancient and contemporary, inhabit six cultural zones which, unlike provinces and territories, have no defined boundaries and instead refer to the region in general. The northwest coast is one of those areas. The others are the Plains, the Plateau, the Subarctic, the Arctic and the Eastern Forests.

THE FIRST NATIONS OF THE NORTHWEST COAST

The Northwest Coast Cultural Region (Canada), one of six included in what is now Canada, brings together several indigenous peoples, including the Nuu-chah-nulth, Kwakwaka'awkws, Haida , the Coast Salish people and the Haislas. Geographically, the region brings together extreme topographies, ranging from vast beaches to deep fjords to snow-capped mountains.

Many indigenous nations live on the northwest coast. The Tlingit occupy the territories from the northwestern tip of British Columbia and southwestern Yukon to the southern coast of Alaska. The Haida, for their part, inhabit Haida Gwaii, an archipelago off the north coast of British Columbia.

Tsimshian-speaking peoples live along the Nass and Skeena rivers, including the Nisga'a and Gitksans (Gitxsan). Scattered along the coast from Tsimshian Territory to northeastern Vancouver Island are the Haislas, Heiltsuks, Oweekeno (Rivers Inlet) and Kwakwaka'wakws. The Nuu-chah-nulth live on the west coast of Vancouver Island. Among those who still occupy the land are the Coast Salish people, a large group of First Nations that include the Central Coast Salish and the North Coast Salish.

Also in northern British Columbia lived three tribes all using a language of the Tsimshian family. The Tsimshian tribe, who lived on the coast just across from the Queen Charlotte Islands at the mouth of the Skeena River, the Gitksan lived further inland along the banks of the Skeena, and the Nisga'a (or Niska) lived in the basin of the Nass River (Niska); the Kwakiutl (or Kwakwala) were one of the most important tribes of the Northwest Coast, they lived on the mainland coast near Fort Rupert as well as the north of Vancouver Island. They included with them nearby tribes such as the Bella Coola who lived on the banks of the Dean and Bella Coola rivers and in the fjords through which these rivers flowed; the Kitimat, Makah and Nootka with whom there were similarities in Algonquian-Wakashan language. The Bella Coola lived on the banks of the Dean and Bella Coola rivers and in the fjords through which these rivers flowed. They belonged to the Salishan language family.

All these northern tribes brought together famous sculptors and artists of totem poles.

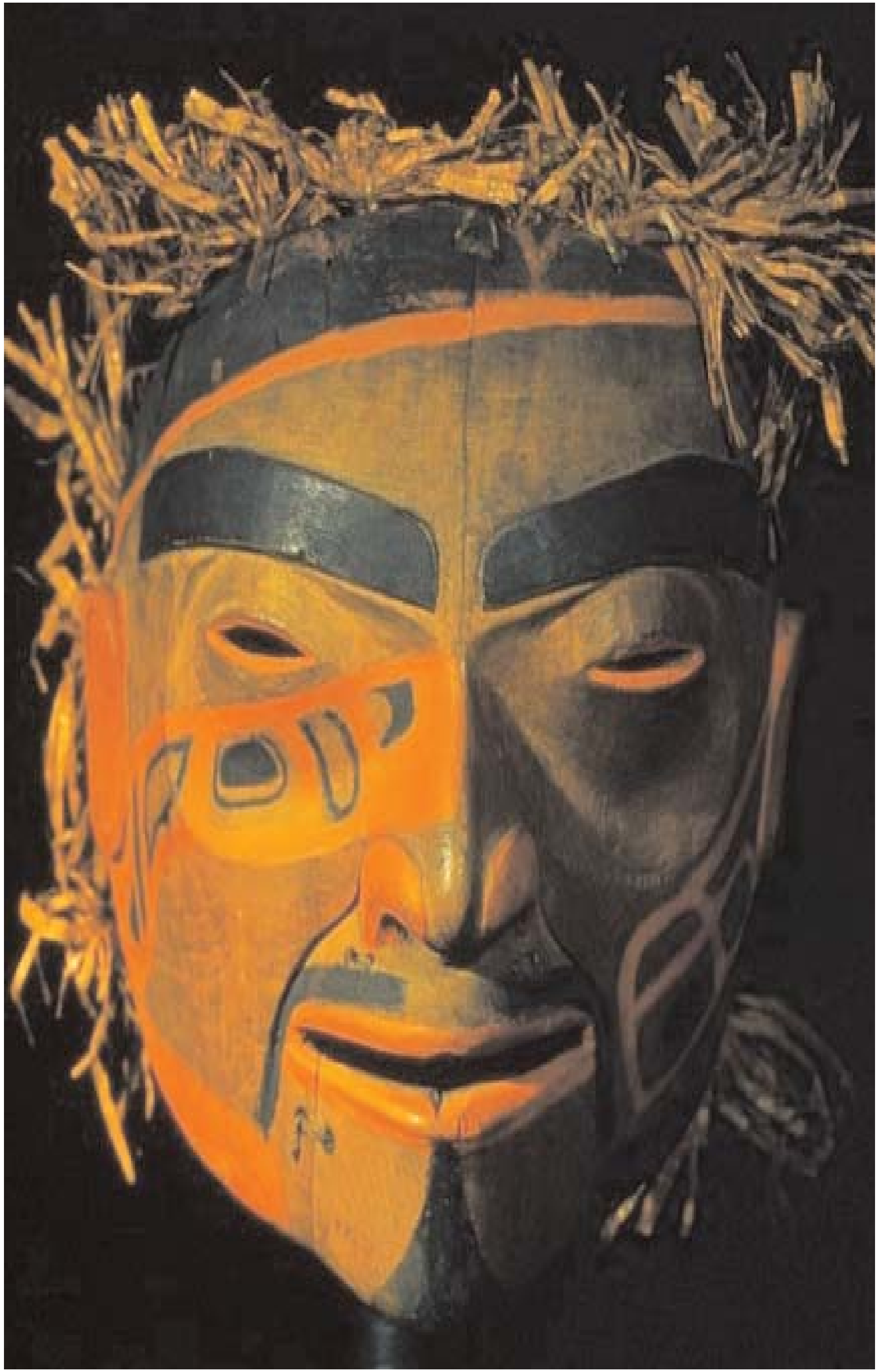
The Coast Salish have been found on the east coast of Vancouver Island and on the coast just opposite the mouth of the Columbia River, in the area of present-day cities of Vancouver and Victoria. They spoke seven languages belonging to the Salishan language family. The Chinooks (Chinouk) occupied the mouth of the Columbia River in Oregon.

Geography

The Northwest Coast Cultural Zone follows the northwest coast of North America and extends somewhat inland along the Nass and Skeena Rivers and the Fraser River in British Columbia. The geography of the region, with its bays, fjords and archipelagos carved out of steep rocks that turn further into coastal mountains, provides many sheltered spaces in which to build villages, while forcing its inhabitants to adopt a lifestyle. maritime.

Traditional life

The first human settlements on the northwest coast probably date back to around 14,000 years ago, the period after the last ice age. Hunting and gathering are the foundation of societies, and the most valuable resources are salmon (for food) and cedar (for construction, crafts and technology). Safe regions and abundant resources give rise to permanent settlements of remarkable richness and political complexity, despite the absence of an agriculture-based economy. Some archaeological finds, including tools cut with a largelarge artistic concern and decorative objects thousands of years old, suggest to archaeologists that spiritual and artistic traditions like the potlatch have been held on the northwest coast for more than 5,000 years.



Food and economy

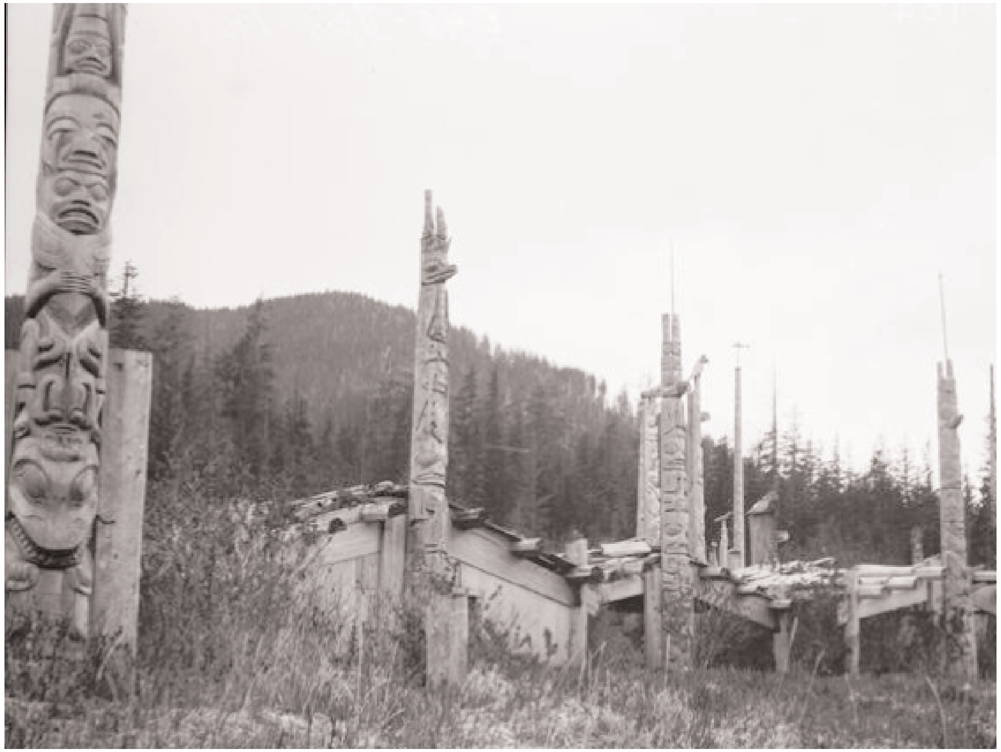
Fishing, hunting and gathering are the livelihoods on the northwest coast. The resources of the sea, in particular, are of paramount importance. The salmon was for the people of the Northwest Coast what the bison was for the people of the Plains. This magnificent fish, with nourishing flesh and rich in oil, sailed up the many rivers from the Pacific every summer. In addition, the ocean provided a plentiful supply of deep-sea fish such as halibut and cod, crustaceans and sea otters, sea lions and whales - which were hunted, using canoes dug in. tree trunks, by many of these coastal tribes. The Pacific salmon runs, which follow their migrations and allow the catch of salmon that will be eaten fresh or dried all year round, are at the heart of the concerns. Fishermen adapt their tools, such as nets, traps and weirs, to different sea and river conditions as well as to the presence of different local fish species. They employ different techniques, such as trolling or jigging, using hooks loaded with bait to catch fish; we also fish with a harpoon or a spear in the waterways.

Hunters capture land mammals, including black-tailed deer, bears, elk (elk), and mountain goats, using bows and arrows, snares, stunners and nets. Marine mammals, including seals, whales and porpoises, are harpooned in the water, and with bats and nets when the animals venture onto the shore. The abundant waterfowl is caught thanks to a multitude of nets. The different peoples supplement their diet with crustaceans, berries, edible roots, bulbs and green shoots. Resources are unevenly distributed across regions, and people on the coast migrate or leave their winter villages to reach more distant sites, as resources vary from season to season.

While hunting and fishing are mostly a men's business, and women do most of the harvesting of plants and seafood, the division of labor is both complementary and cooperative. Men and women together make the tools they need. Since all types of food are sometimes amassed in quantities that are too large for their immediate needs, they frequently save food for more frugal times. The men bring back the majority of the fish and game while the women take care of the cooking and preservation of the meat.

Housing and transport

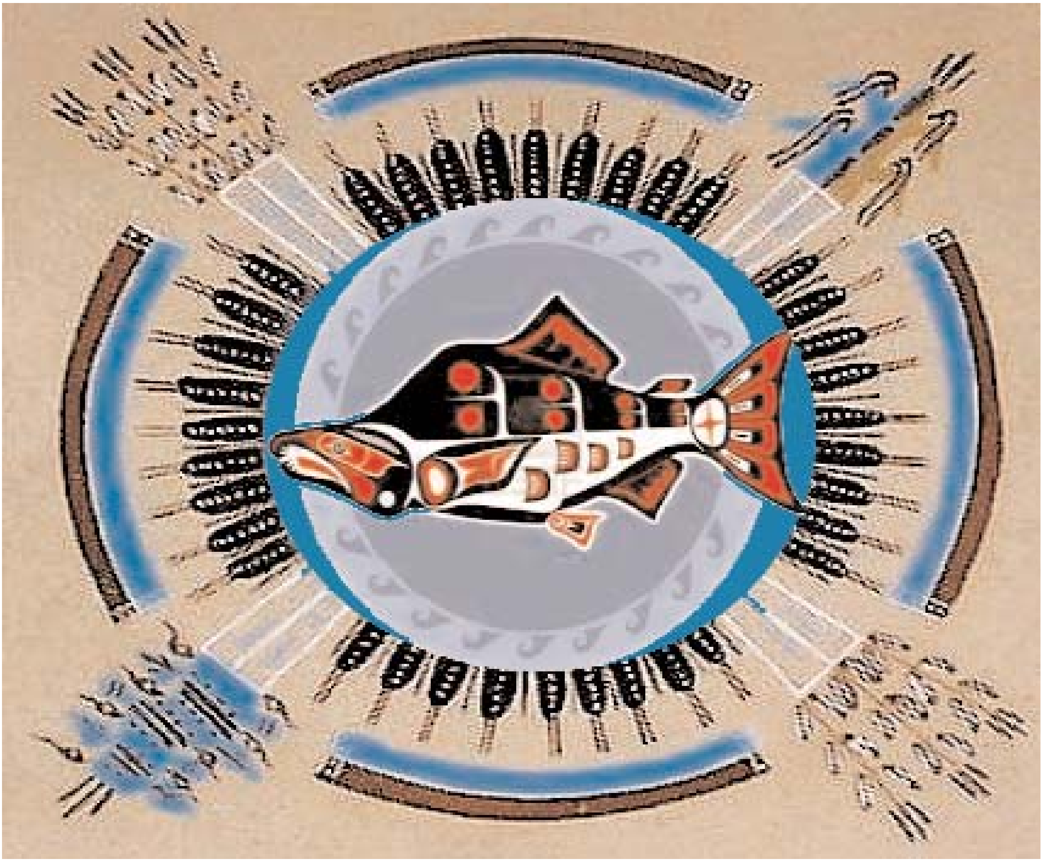
The indigenous peoples of the northwest coast generally shelter in winter in large structures of beams and posts. Called "plank houses", these structures are covered with cedar planks decorated in a distinctive way according to the regions. Cedar is a coveted wood because its long, straight grain is ideal for woodworking, both artistically and utilitarian.



Carpentry is a man's job; with stone or shell blades, wooden wedges and stone hammers, they make plank houses, but also all kinds of everyday objects. For example, artisans make many trimmed canoes, which allow them to move on fast and offshore streams.

Clothing

Women are responsible for making clothes for their families. They weave cedar bark skirts and capes for everyday living. On special occasions, the peoples of the North wear richly decorated Chilkat blankets made of cedar bark and mountain goat wool. The Coast Salish people weave the wool of mountain goats, adding dog wool, to make heavy blankets with decorated edges; they are worn daily in cold weather. All over the coast, fur capes complete this store of clothing.



Women make other everyday items, such as lines and fishing nets, using the twine they spin. They weave baskets for picking as well as beautiful hats adorned with bark and cedar roots. Carpets are also woven of cedar bark or rushes, used as furnishings and coverings for homes to better retain heat.

Society

The basic social unit, all over the Northwest Coast, is a large group of people who generally have common ancestors. Among the Nordic peoples, clan membership is usually passed down through the mother, but in the south it can be claimed by virtue of paternal line or maternal line. In both regions, there is therefore a united family group living with their spouses in a house or a group of houses, guided and directed by competent leaders. These leaders have an official title or inherit an important name within the lineage and are responsible for the organization of family property, including intangible possessions such as names, performing rituals, special songs or hidden knowledge. The real wealth, however, is the stranglehold on properties such as land on which to build houses, gathering sites, hunting grounds, seal rookeries or trapping areas. While certain territories and certain waters belong to everyone, sites with more abundant resources are private.

This real estate ownership, in addition to efficient management of family labor and individual capital, enables these groups and their leaders to be particularly productive and to accumulate considerable wealth. Ownership is the basis and manifestation of the rank and class system on the Northwest Coast. In some communities, there are specific social statuses governed by an internal hierarchy, and in others more flexible categories. Some form of distinction between low and high ranks is nearly universal, as is the practice of slavery. Slaves are bought or captured in times of war. Although they share the home of their masters, slaves do not enjoy full civil rights and are forced to perform household chores.

The villages are always located near navigable waters, and the houses are oriented parallel to the beach, facing the water. Although all have in common kinship, dialect and an interest in the land, it is the most powerful families who rule the villages. Among the Tsimshian and Nuu-chah-nulth peoples of the coast, the most powerful village chiefs extend their influence through the temporary union of clans during the winter season. Injury or death can lead to conflict, which sometimes escalates into armed clashes. The acquisition of goods, including slaves, is also a source of conflict. Despite everything, the custom of righting wrongs by giving offerings is widespread across the coast and can help limit the scale of clashes.

People of high rank, even if they come from different lineages or villages, have in common belonging to their social class and meet in ritual associations often called "secret societies". The most important of these associations are the bonds of marriage and the exchanges of gifts which they entail. Weddings are organized between people from different family groups, often from villages far apart. In order to validate the rights of the lineage and maintain the social class of the married couple, assemblies of witnesses from several different clans are invited to potlatches. During these ceremonies, the hosts serve the meal and distribute presents to the guests. If barter and exchanges take place, it is presents and feasts that remain the main means of distribution and exchange of wealth.

Culture

Music and decorative arts are part of secular activities as well as sacred events for the indigenous peoples of the Northwest Coast. Protective spirits teach people songs that are then used to transmit the traditions of families or secret societies, often accompanied by masked reenactments of legendary or supernatural events. There are songs for all occasions, whether it is to soothe children, to lend themselves to games, to express love or sorrow. The voice is the main melodic instrument, accompanied by percussion, whistles or horns.

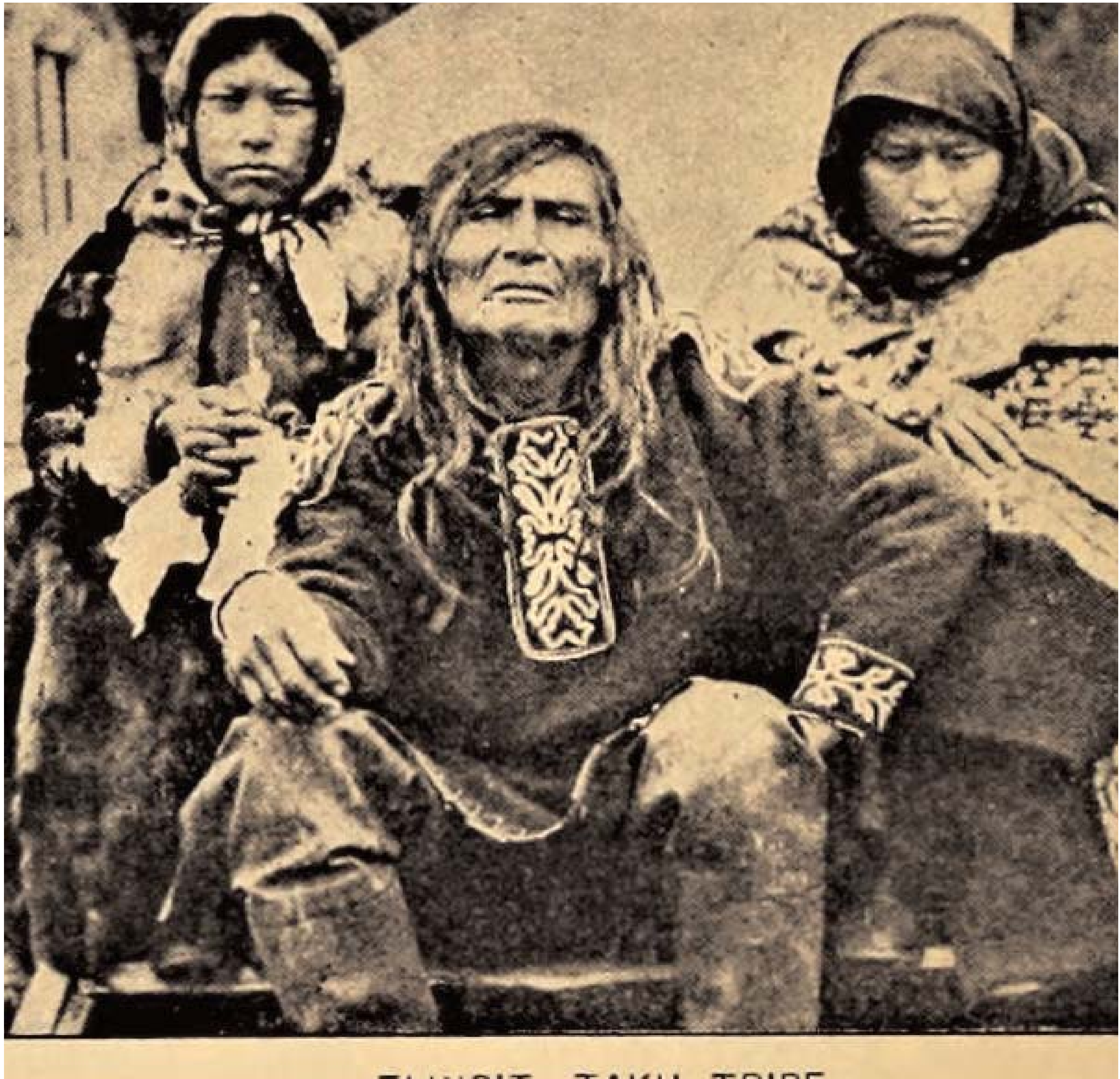
Sculptural and decorative art is also part of everyday life. Artists add ornaments to tools, houses, baskets, clothing, and objects related to the supernatural. Carving and painting of wood, especially for the creation of totem poles, is one of the most defining characteristics of the Native culture of the Northwest Coast. Archaeological findings suggest that these artistic traditions have a long history in the region and that the distinctive style of some areas bears some resemblance to older traditions in terms of form. In the North, works of art are very elaborate and often bear the coats of arms of the family to which they belong. Wakashan sculptors, for their part, create superb masks for theatrical performances. The Salish focus more on religious objects, paying little attention to family crests. In all regions, owning sculptures or decorative art objects is a sign of wealth and denotes belonging to a high social class.

TLINGIT

Indians of the North Pacific coast, the Tlingit lived far north, on the islands and, on the coast of southern Alaska, from Yakutat Bay to Cape Fox. They spoke Tlingit, from the Athapaskan language group, and were divided into fourteen tribes or territorial groups. According to their legends, some of their ancestors came from the south, others from the interior.

Tlingit groups were divided into two exogamic and matrilineal parts or halves. The exchange of goods (potlatch) and services always took place between halves (the opposite half is the enemy with which we must always come to terms). The halves were subdivided into clans, the members of which all descended from the same legendary ancestor. Within a clan, all individuals were not considered in the same way: there was the chief, but there were also the "poor relatives". If all these people were united on the outside, they respected a very strict etiquette among themselves. Likewise, not all clans were equally important. The Raven clan and the Wolf clan were the most prestigious. However, politically and socially, the fundamental unit was lineage. Each lineage was independent and had its own leader; he owned and operated his land. Lineage also formed the fundamental ceremonial unit.

The Tlingit economy was based on fishing. The main food was salmon. The Tlingit also hunted marine mammals and sometimes land mammals. They used the wood to make houses, canoes, dishes, etc. They built large permanent houses near good fishing grounds and in places where they could moor their boats safely. They only occupied their houses in winter; during the summer, they scattered over the various fishing and hunting grounds.



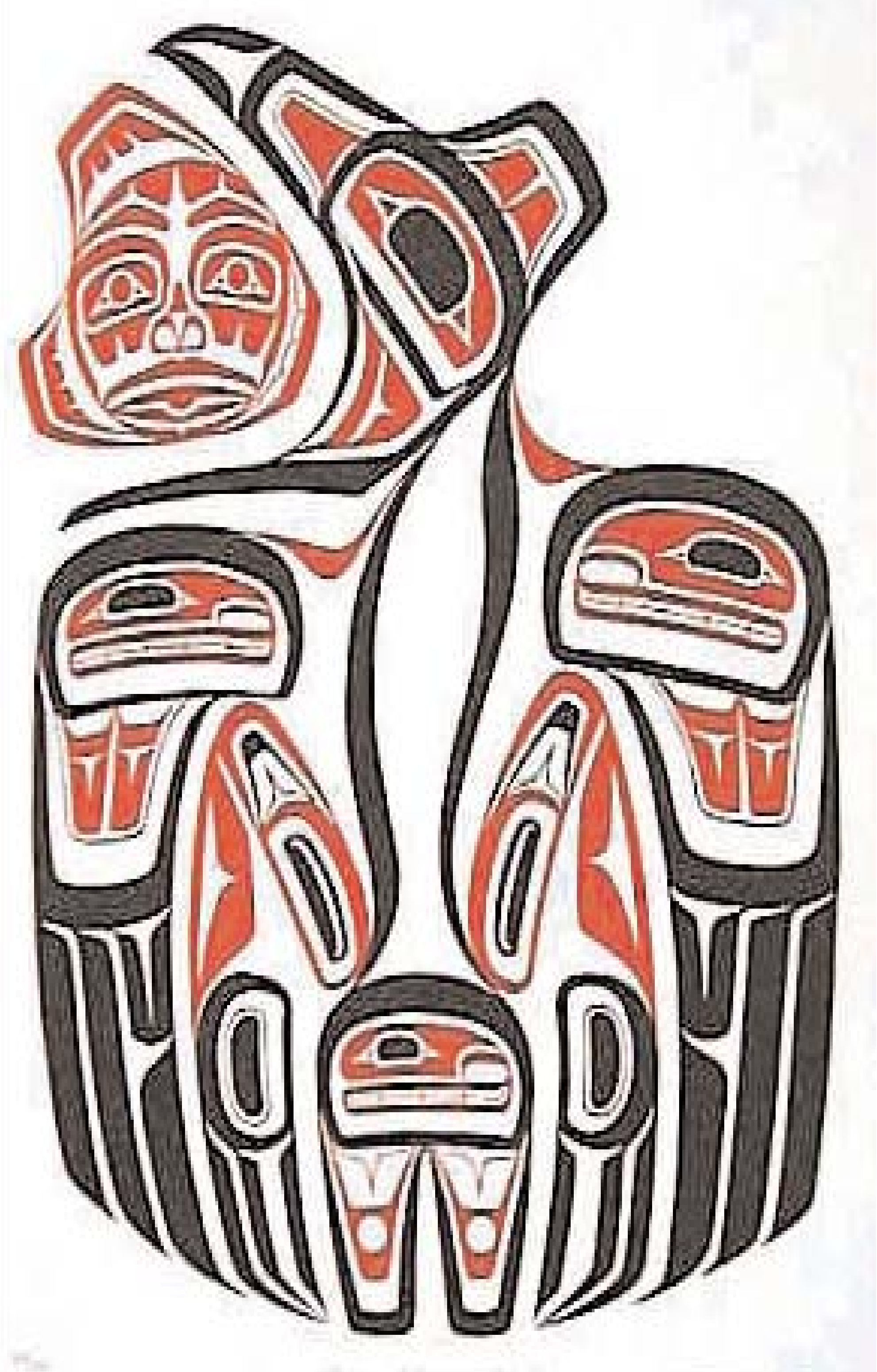
TLINGIT, TAKU TRIBE

HAIDA

Indians of the Queen Charlotte Islands (British Columbia) and southern Prince of Wales Island (Alaska). They speak Haida, a language related to Athapaskan, and are culturally very close to the Tlingit and Tsimshian. The ethnic group was divided into two units called "halves": one belonged to one half from birth by matrilineal descent; each half was made up of several local segments, or lineages, which had rights to certain economically important territories; each lineage occupied one or more houses in separate villages which had their chiefs, each house also having its own. Each lineage could make war and peace and organize ceremonies.

Economically, the lineages were independent of each other. The Haida had an economy that relied mainly on sea fishing (salmon, halibut and cod) and hunting. They excelled in woodworking and were most famous for their canoes and for their artistic production; they adorned all their utilitarian objects with supernatural beings which they represented in a very conventional way. They made very impressive totems on which were carved important events relating to the history of families. These totems served as pillars outside and inside the house; they were also used as mortuary or commemorative totems.

The art of the northwest coast of the United States and Canada was discovered quite late. In fact, there had been a great vogue in Europe for Negro art, but the art of the north-west coast was still ignored at that time. It is thanks to the French colony of artists and intellectuals who lived in New York during the Second World War that the sculptures of this coast were discovered, especially those of the Haida. The potlatch, that is to say the ceremonial distribution of goods, was organized on the occasion of certain events (building a house, erection of a totem pole, funeral), but also when revenge or save face after an insult. A person acquired his status through potlatches organized by his family, not through those he gave himself.



K'AKA'WIN

K'aka'win, also known as the Sproat Lake Petroglyphs, is an open-cast rock site carved into the vertical wall along the edge of Sproat Lake. Located in the provincial park of the same name, in the Alberni Valley in the center of Vancouver Island, it is among the first rock sites to have been studied in Canada, from the end of the 19th century. It is located in the territory of Nuu-chah-nulth (Nootka), more precisely of the Hupacasath First Nation, a people speaking a language of the Wakashane family.

Along the sea and the mountains

The Vancouver Island Chains, some of which reach more than 2,000 meters in height, stretch almost the entire length of the island. These coasts are fragmented by inlets, bays and inlets.

The Alberni Valley is surrounded by mountains and is home to exceptionally rich flora and fauna. There are lush forests with species such as western cedars, Douglas firs, western hemlocks and, on the highest elevations, Nootka cypress. A wide variety of berries, shrubs and ferns, including the remarkable bramble, are also present here. The area is teeming with fish, including five different species of Pacific salmon, cutthroat trout, rainbow trout and more. Mammals include Roosevelt's elk, black bear, wolf, and cougar. Birds are plentiful here and include the great blue heron, the peregrine falcon, and some rare species such as the Queen Charlotte Islands Northern Goshawk. Finally, among the marine mammals living on the west coast of the island, we note the presence of the sea lion, the gray whale, the humpback whale and the killer whale.

In Nuu-chah-nulth (Nootka) culture, the killer whale is closely associated with the wolf. Like him, he hunts in packs and shares the same hunting skills. He would also have the ability to transform into this animal once on earth.

K'aka'win is a term in the nuu-chah-nulth or nootka language which means "something attached to one's back". This term refers to a killer whale and refers to its dorsal fin. Another toponym is associated with this place, "qua queiyt'q K'aka'win oo t! Un A-xa'maqis", the meaning of which is "the killer whale rushing on the beach." This last mention refers to a hunting technique where this mammal attacks seals or sea lions lying on the shore.

In Nuu-chah-nulth (Nootka) culture, the killer whale is closely associated with the wolf. Like him, he hunts in packs and shares the same hunting skills. He would also have the ability to transform into this animal once on earth.

The Nuu-chah-nulth (Nootka) of Vancouver Island

The Nuu-chah-nulth (Nootka) of Vancouver Island were traditionally hunter-fisher-gatherers living in villages made up of large, multi-family wooden houses. Marine resources, such as salmon, were essential to their livelihood. The importance of the whale and the hunt for this large mammal is expressed in the songs, oral histories and spirituality of the Nuu-chah-nulth (Nootka). The importance of this marine universe in the traditional culture of the Nuu-chah-nulth (Nootka) is represented in the images of K'aka'win although the precise identification of these creatures, with the hybrid appearance, remains difficult.

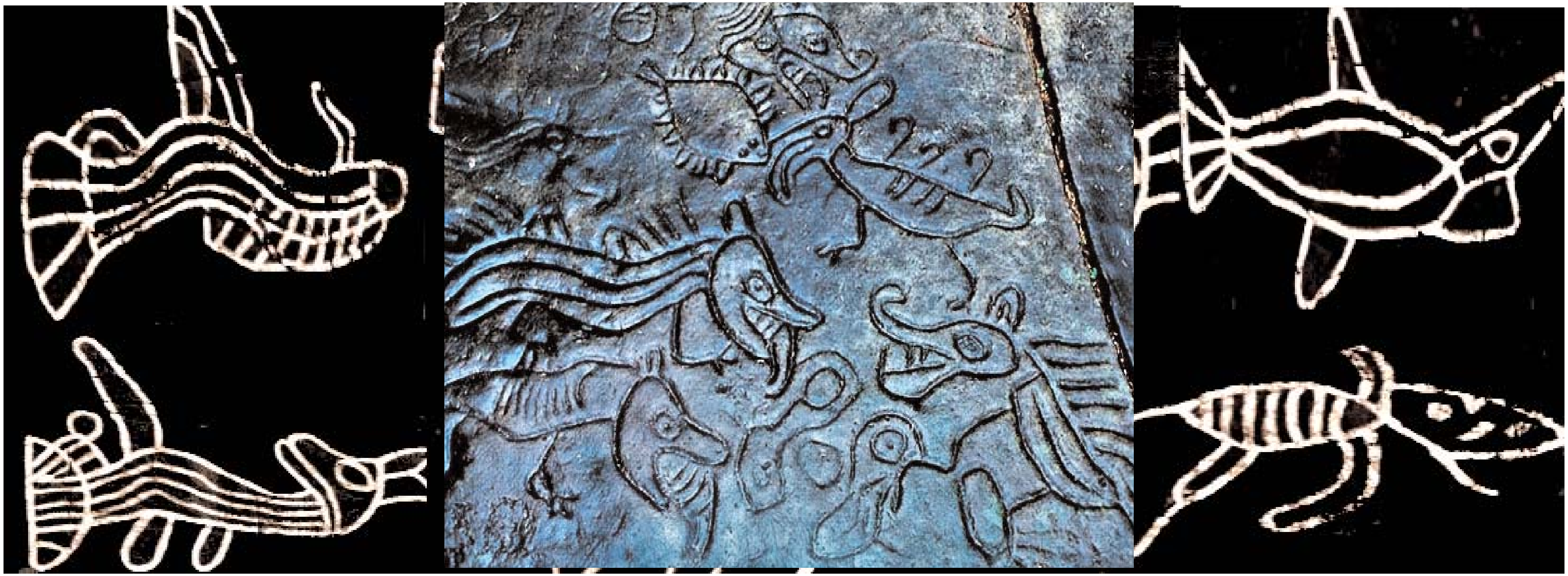
The rock where the petroglyphs are located is also known as "the house of Kwatyat", the cultural hero of the Nuu-chah-nulth (Nootka). Kwatyat is a Transformer, a character who, according to oral histories, has the power to transform the elements around him. It is said that it was he who gave living beings and landscapes the shape of today. In Northwest Coast cultures, the Transformer is often depicted as a crow. This place continues to be of great importance to the Hupacasath Nation who dedicate many stories to it and fight for its protection.

Sea creatures

The hybridity of beings dominates in K'aka'win and their identification remains difficult. Some images would introduce us to the seawolf, a half-wolf and half-whale creature, often referred to in oral histories of the Northwest Coast. Other images could represent the "Lightning Serpent" or Hiy'itl'iik / Haietlik. This creature which is the manifestation of the lightning is closely related to the Thunderbird. According to belief, the latter uses lightning to hunt whales. The "Lightning Serpent", also known as the harpoon, the belt or the dog of the Thunderbird integrates the characteristics of birds, wolves and fish. These representations are found on objects related to whaling, such as harpoons and canoes. Finally, most of K'aka'win's creatures have dorsal fins specific to killer whales. Thus, each of the engravings in the place could be a different version of the supernatural orcs.

The killer whale, the master of the waters

Killer whales, or orcas, are important beings in the stories and beliefs of the peoples of the Northwest Coast. For them, these marine mammals are the founding ancestors of clans, basic cells of social organization. Some killer whales can thus be the representation of great reincarnated chiefs. According to oral tradition, these creatures take on human form when they return to their underwater homes. It is only by getting into their canoes, hunting and fishing, that human-shaped killer whales transform into the form we know them. According to another account, a white wolf once at sea would have become the first killer whale. These two predators are admired for their wisdom and hunting prowess. We notice similarities in their coloring and hunting techniques as well as in their pack behavior. The killer whale is also associated with humans, as both hunt the same prey, the whale.



SALISH

Salish-speaking Indians settled on the Pacific coast of northwestern North America, the Coast Salish (Coast Salish) inhabit near the Strait of Georgia and Puget Sound, across much of the Olympic Peninsula and in western part of Washington State; one of the Salish groups, called Tillamook, lived south of the Columbia River in Oregon. Another group, the Bella-Coola, lived further north along the Dean and Burke rivers and in the Bella-Coola River valley; they also spoke a Salish language and were probably from the main group of Coast Salish people. These coastal peoples probably came from the interior, where the other Salish peoples lived. Culturally, they were close to the Chinooks.

Like all the other peoples of the northwest coast, they made a living mainly from fishing. Only certain groups established along the rivers made hunting their main activity, which was quite unusual in this region. The Coast Salish people built wooden houses, fixed dwellings in which they lived in the winter; sometimes, when they had to camp or stay for a while in one place, they built huts covered with straw mats, like the Salish of the interior. Composed of close relatives, the local group formed the basic social unit. Usually each group or extended family lived in the same large house. A group of houses formed a winter village where the people who had dispersed during the summer to go fishing, hunting and gathering gathered. There was not really a village chief: each family had a chief who could be asked for his opinion, but he could not impose decisions.

As in other coastal ethnic groups, the potlatch, that is to say the ceremonial distribution of goods, procured prestige for those who won this game of ostentatious expense; it also validated in the eyes of the interested parties changes in social status that could affect individuals; so it was when someone got married, or acquired a name and the rights and privileges attached to it. In winter, very complex ritual ceremonies took place: some individuals performed the dances that the spirits had inspired in them in dreams; others went into a trance; still others, alone or in groups, performed exploits to which the tribal community accorded special value and were granted exclusive rights, the full enjoyment of these occurring only after the beneficiary had confirmed his right in inheriting it, by contracting marriage or by purchasing the right itself.

THE FIRST NATIONS OF CANADA'S INTERIOR SHELF

Wedged between the Coast Mountains to the west, and the Columbia Mountains and Rocky Mountains to the east, the Interior Plateau is one of Canada's most diverse natural regions. In Canada, six tribes occupied the diverse interior plateau region of British Columbia.

The Inner Salish tribe was the largest of these tribes and consisted of five groups using a language of the Salishan family. The Lillooet tribe lived in the Lillooet River Valley. To the south and west was the Thompson First Nation, which occupied the Fraser River valley from Yale to Lillooet. The most northerly and largest group were the Shuswap, who controlled the Fraser River from Lillooet to Alexandria and eastward the Rocky Mountains. Most southerly were the Okanagan group, who lived in the Okanagan River valley. Until about 1750, the Kootenay Tribe lived east of the Rockies on the Prairies. Led west over the mountains by the Blackfoot, they came to occupy the southeastern corner of British Columbia. They belonged to the Koonetayan language family.

The Chilcotin occupied the sources of the Chilcotin River and the Lake Anahim district, this tribe used a language of the Athaspaskan language family. Further north were the Carriers, who belonged to the same language family. They lived in a large area comprising the valleys of the Fraser, Blackwater, Nechako and Bulkley rivers.

The third tribe using an Athaspaskan language was the Tahltan, who lived north of the Carrier and controlled the lands of the upper drainage basin of the Stikine River. North of the Tahltan, at the top of the Lewes River valley lived the Tagish, who belonged to the Tlingit language family.

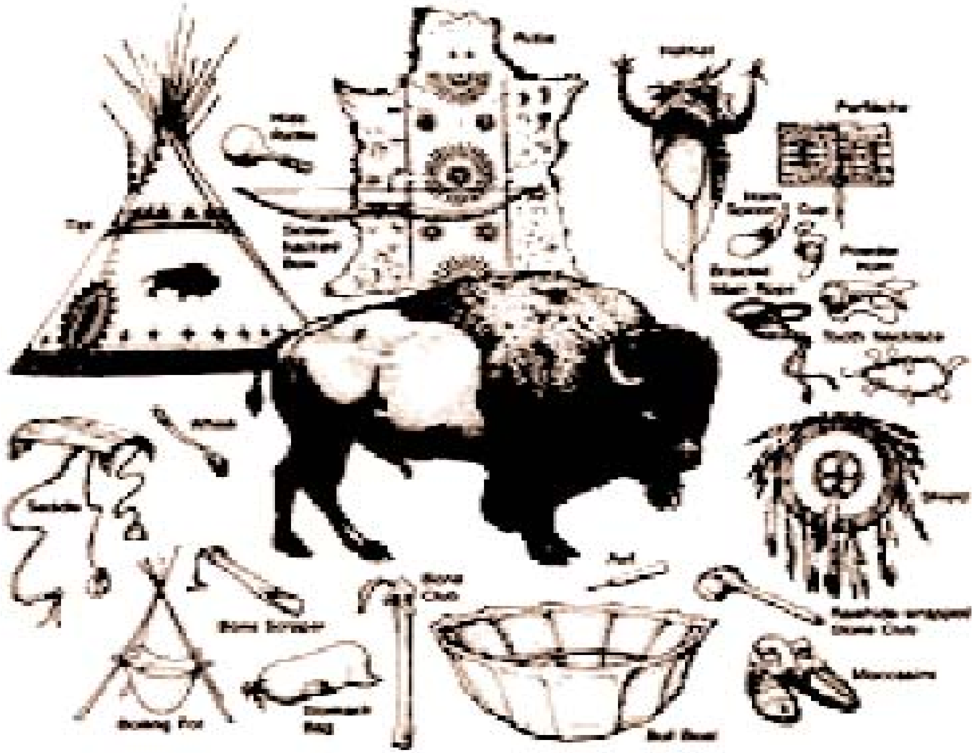
The Plateau cultivation area was essentially a large valley between the Rocky Mountains and the Coast Ranges that featured several types of environments. The southernmost part was semi-desert with cacti, bushes and rattlesnakes. In the spring, the rivers and waterfalls of the central region were teeming with salmon. To the north, near the Cascade Range, stretches a land rich in moose, deer and caribou. Despite the variety of local environments, the tribes of British Columbia use similar methods for hunting, fishing, cooking, and preserving their food. However, the design of their habitat varies from region to region. There were also marked differences in the social organization of the different tribes.

Mythology

In this predominantly non-agricultural region there is rarely any reference to the bowels of the earth. On the other hand, there is a profusion of myths related to animals, in particular the Coyote who, under the guise of the Trickster, is often described as a selfish, greedy and cunning being, showing to men - by his clumsiness and his incongruous escapades - how not to behave. Elsewhere, the benefits derived from pleasing the Spirits of the Animals are evoked in the Nez-Perce myth recounting how the Beaver brought fire to the tribe.

CANADA-USA FIRST NATIONS OF THE PLAINS

The Plains Cultural Region is a vast land stretching from southern Manitoba and the Mississippi River to the Rockies in the west, and from the North Saskatchewan River to southern Texas. The term "people of the Plains" refers to a number of distinct Aboriginal nations, including the Siksikas, Cree, Ojibway, Assiniboine (Nakota) and Dakota.



Several Indigenous nations consider the Plains to be their ancestral territory, including the Siksikas, Piikani, Kainai, Dakotas, Stoneys-Nakodas, Cree, Assiniboine and Tsuut'ina.

After prolonged contact with Europeans, many Aboriginal women, particularly the Plains Cree, married the newcomers, giving rise to the Métis, an Aboriginal people with a distinct culture. Although this kind of mixing is commonplace elsewhere in Canada and sizeable Métis communities already exist, the Plains are often considered the physical, cultural and political cradle of the Métis people.

Geography

The Plains region generally refers to southern Alberta and Saskatchewan as well as southwestern Manitoba. It has a continental climate, characterized by hot, dry summers and very cold winters. Tall grass covers the immense meadows to the east; short grasses, sage and cacti are found on the high arid plains to the west. On either side of the region stretch flat land and meadows. To the east, rivers have carved out the earth and constitute the only source of water in the region. Trees only grow in the valleys and quickly become more visible at the edges of the area. This region is home to several indigenous peoples of the Plains.

Traditional life

First stands

Some 11,000 years ago, small bands of nomadic hunters roamed the Plains For thousands of years, buffalo hunting was carried out with spears, but around AD 200 a group known as the Avonlea people (because they lived during the Avonlea period) specialize in bow hunting. According to some sources, the people of Avonlea arrived in southern Saskatchewan and Alberta around 100 AD. Around the year 1000, its members began to cultivate the land, but mostly continued to live in bison hunting nomads.

Food

Traditionally, the people of the Plains eat fruits, vegetables and game in season. Nuts, roots and berries are the staple foods of the Plains diet. Fish is used frequently as a supplement to bison meat by some Plains peoples.

While women gather and cultivate, hunting, a typically male activity, provides most of the food. Plains hunters use disguises made of animal skins to drag bison into traps or get close enough to kill them with their bows and arrows. Hunters also urge bison herds to fling down steep cliffs. The horse makes hunting easier, but muzzle-loading rifles are still less effective than bows.

The people of the Plains therefore waited for the 1860s and the arrival of breech-loading rifles to abandon their bows and arrows.

In general, the women take care of preparing the fruits of the hunt. Some of the meat is eaten immediately, raw or cooked, but most of it is sliced and dried in the sun for winter, or chopped and mixed with fat and berries to make pemmican.

Accommodation and transportation

When a family moves from one camp to another, they transport their belongings with the help of draft dogs. After 1776, certain indigenous peoples of the Plains used the travois, a sort of triangular trailer pulled by dogs. The indigenous peoples of North America tamed their own dogs, but they were quickly replaced by European breeds after first contact. In some cases, the travois is used as a base for a dwelling called a tipi, a conical structure made from wooden poles covered with buffalo skins. The arrival of the horse allows the construction and transport of larger travois and, in doing so, larger teepees. Some tribes in the Plains further north use snowshoes during the winter.

Clothing

Women make their family's clothes, often using antelope, deer, and buffalo hides: loincloths, leggings and shirts for men and long dresses and leggings for women. Buffalo hides are sometimes used for tunics and moccasins. The bison is a versatile animal; not only does it provide food, but its horns, bones, tendons and skin are used in the making of tarpaulins for tents, shields, tools and utensils.

Culture

The variety of native cultures of the Plains is reflected in their artistic expressions, which range from tattoos to clothing painted or embroidered with porcupine quills, to tipi tarps, shields and containers made of painted animal skins. Plains art also includes engravings on wooden bowls, horn spoons and stone pipes. These items are often adorned with symbols associated with the Aboriginal nation or a band member who created the designs.

The peoples of the Plains are credited with the first powwows, events where several Indigenous communities come together to celebrate their culture. Wearing ornaments set with sacred eagle feathers, beads or colorful items, the indigenous peoples of the Plains practice powwow songs and dances. During these ceremonies, drums are used which represent the earth or the cycle of life. Therefore, they are of great importance in the culture and spirituality of many indigenous peoples of the Plains. Some powwow songs have healing properties, others tell a specific story, but they are all considered sacred.

Language

The languages spoken by the indigenous peoples of the Plains of Canada can be separated into three linguistic families. The Blackfoot Confederation speaks Siksikái'powahsin: the Blackfoot language, the Plains Cree (Nêhiyawak), the Fat Belly (Atsina) and the Plains Ojibwés speak the Algonquin language. The Sioux languages are those of the Assiniboine (Nakotas), the Stoneys-Nakodas and the Dakotas. The Tsuut'ina language (known as Sarsi) is part of the Athapaskan (or Dene) language family

Languages of separate families are entirely different, and within each family the languages are similar, but not alike. The linguistic diversity and great mobility of the nomadic population of the Plains encouraged the development of communication based on hand gestures and other signs.

Social organization

The capacity of the peoples of the Plains to adapt to their environment, especially in the movement of bison herds, is reflected in their social organization. Most Aboriginal nations are made up of several independent bands that are freely grouped together. Chiefs are respected and supported by the gang as long as they are successful in foraging and defending against enemy attacks. The bands move independently. In difficult times, smaller groups form and split up to increase the chances of finding sufficient food.

When the bison congregate in larger herds and group hunting becomes preferable, the bands meet in a single tribal camp for a few weeks. At this time of year, the people of the Plains come together for great celebrations, which are the main form of tribal cohesion. After performing the sun dance and occasionally a bit of buffalo hunting, the bands split up again. In the fall, they travel to river valleys, foothills and green spaces, where their well-protected camps await them for the winter.

Religion and spirituality

Religious ideas and practices are present in all daily activities. People pray, hoping for help, power, or protection from the Spirits. An individual in search of such power goes to a lonely place to pray until a spiritual guardian appears to him in a dream, or during the vision quest. Mystical experiences sometimes give rise to cults, which disappear at the same time as their initiator or become very popular. Towards the end of the 19th century, for example, a practice called the "dance of the spirits" gained momentum among the peoples of the Plains in Canada and the United States. Initially, this ritual predicts the rebirth of the dead and the return of animals that have become rare in the Plains. Some Dakota (Sioux) practitioners also believe that the costumes worn during the dance of the spirits protect them against projectiles from white settlers. Believing that the dance of the spirits has a warlike connotation (because it is wrongly attributed to the armed outburst of the late 1890s, which ended in the massacre of Wounded Knee, in South Dakota), the US authorities violently repress its practice and prohibit it on the reservations of South Dakota. Although spirit dancing is not widely practiced in Canada, police are taking steps to discourage the practice.

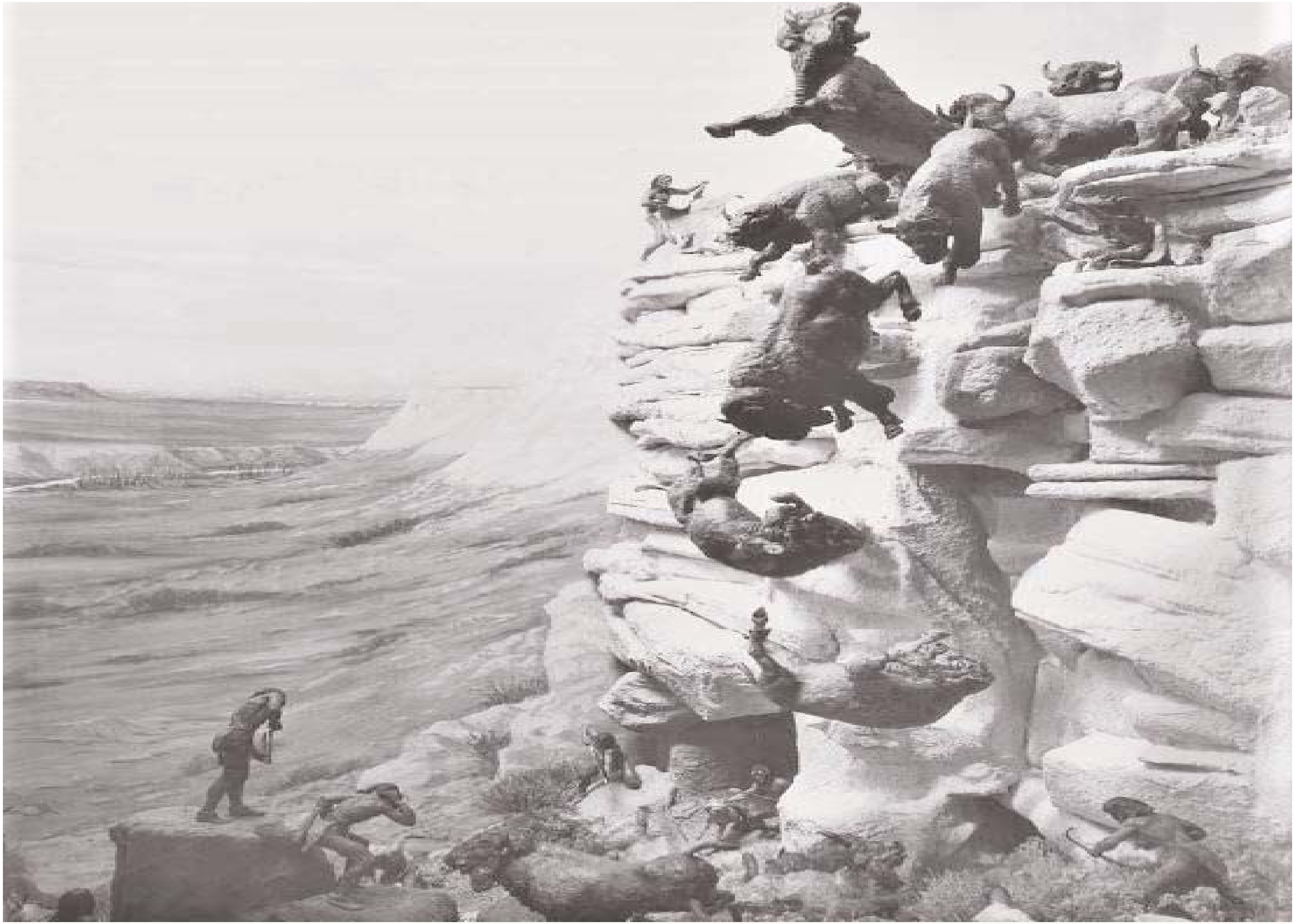
European colonization

In the 17th century, the Spanish conquistadors from Mexico introduced the horse south of the Plains. These spread to the north, thanks to barter and raiding between the tribes, to reach the Plains in the 1730s. The appearance of the horse transforms hunting techniques, and allows people to transport larger and larger dwellings. comfortable. It also leads to horse theft, the most common form of warfare between tribes. Usually, small groups of warriors invade enemy territory and then run away with the horses, sometimes after killing a few people in the process.

The arrival of Europeans at this time brought the Plains peoples into contact with the eastern colonies, and from 1730 to 1870, the Plains Aboriginals played an important role in the fur trade, an activity that profoundly transformed their way of life. Adjusting their hunting practices to meet the demands of traders, the Aboriginals of the Plains gradually moved from a life of subsistence to a way of life based on interdependence and commerce.

PLAINS ARCHEOLOGY

The Brockinton Archaeological Site, also known as the Brockinton Indian Sites National Historic Site of Canada, is located along the slope of the Souris River Valley in southwestern Manitoba. It is a stratified site that contains three distinct occupations: an old enclosure where bison were killed and butchered, which dates from AD 800. JC; an occupation of the Duck Bay culture dating from AD 1100 to 1350. JC; and an occupation of the Williams culture, the first to be excavated, dating from AD 1600. JC



A diorama depicting a buffalo jump on the northern Great Plains. By inciting a buffalo stampede and steering the rampaging animals over a cliff, early hunters could kill hundreds of buffalo at one time. *(Courtesy of Montana Historical Society, Helena)*

The bison enclosure consisted of a series of stakes 15 to 25 cm in diameter that were driven into the ground to a depth of 20 to 40 cm. The stakes were placed among the trees in a long row that was about 1.5 meters wide. From the enclosures that have been documented in the early fur trade era, it can be assumed that the Brockinton enclosure was supported by horizontal branches and saplings that were intertwined among the stakes and trees. The openings were probably covered with skins. The bison were directed, in their course, towards the steep edge of the cliff and they collapsed against the structure at the bottom of the valley.

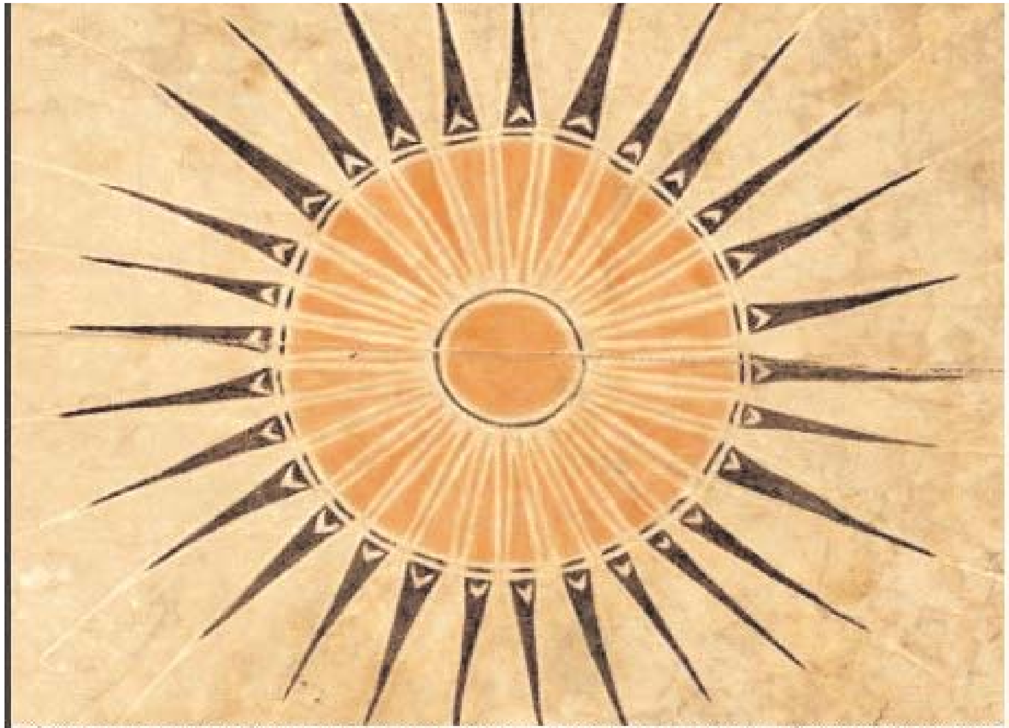
What is special about the Brockinton enclosure is that it was systematically dismantled and the stake holes were solidly filled with several bison bones placed vertically. The research carried out at Brockinton is among the first and best documented on the subject. The enclosure was suddenly abandoned, leaving behind traces of simple butchering with minimal bone fracturing. One of the largest concentrations of small side notched arrowheads on the Prairies has been found here. There were between 20 and 90 per 2 m2 unit.

The Duck Bay culture camp above the first occupation shows the adaptation of an indigenous group from the woodlands to the seasonal buffalo hunt. Shards have been found from large ceramic vessels characteristic of wooded regions, with string prints and shallow stamps. There were also scrapers, bifaces and projectile points, including broken bases that had been thrown when the arrows were repaired with new points. These people had adopted a number of characteristics of the Plains, including the use of chert from the Knife River in western North Dakota for making tools, and stone grindstones for crushing seeds. Three miniature metal awls and a rare (in Manitoba) fluted granite sharpener used to flatten wooden arrow shafts were also collected. Among the animal remains were bison, canine, beaver, deer, antelope, and fish bones, reflecting a mixed economy.

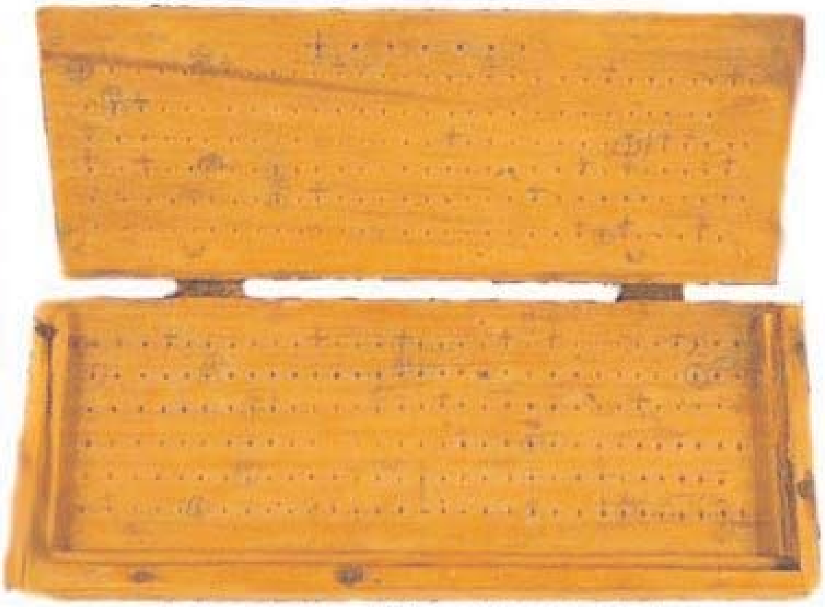
The latest occupation, a Williams culture camp, shows the prime importance of the bison to a Plains group distinguished by a uniquely decorated type of pottery. There are small bowls, some with curved "S" shaped necks and decorated with triangular and horizontal patterns printed with two intertwined ropes and small shallow stamps made with reeds, pipes. of bird feather, or small bird bones. A few dense dough vessels, with semi-polished surfaces and wide stripe decoration, suggest a connection to the Oneota of southern Minnesota and Iowa. The term "Oneota" refers to several groups that lived in the prairie peninsula between AD 1000 and AD 1650. JC Among the remains of the village, we found scrapers, bifaces, retouched flakes, arrowheads, including bases left during the repair of arrows, awls and bone needles, and fragments of tubular pipes in red (probably catlinite) and gray (soapstone) pipestone.

The buffalo jump

The bison was an indispensable animal for the natives of the Great Plains, both as a spiritual entity and as an essential source of sustenance. The natives used all parts of the animal's body for food, clothing and for making tools. The most famous of the hunting techniques employed was that of the buffalo jump. The herd was chased so as to direct it towards the cliff, from which several bison were thus thrown into the void.

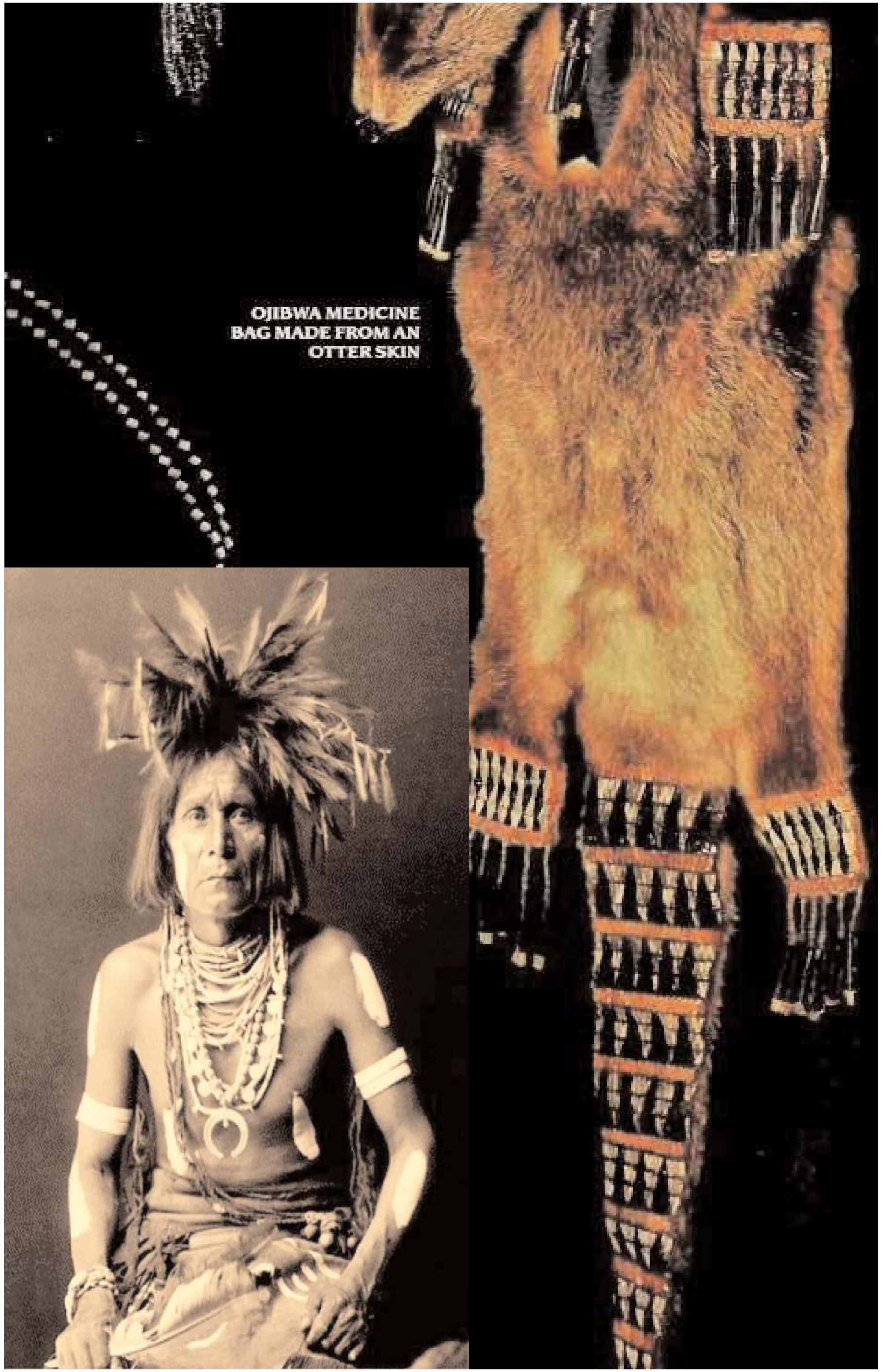


ROBE DE "MEDICINE MAN" en peau de bison peinte. Circa 1840-1850 Mandan ou Hidatsa, Haut-Missouri, U.S.A. Belle, très importante et rarissime robe de buffalo peinte d'un motif central du type "Feathered Circle" : Soleil de plumes ou "War Bonnet". Cette peau de bison était habituellement portée par un "Medicine Man".



www.astrosante.com/sasewit_troc.html

(Ancien calendrier utilisé par le Medicine Man)



THE FIRST NATIONS OF THE GREAT PLAINS AND CENTRAL PRAIRIES

The Great Plains of North America stretch from the Canadian provinces of Alberta, Saskatchewan and Mannitoba to Arkansas, Texas and New Mexico. To the west are the Rockies and to the east the Mississippi Valley and Missouri.

On this territory stretched what the first pioneers believed to be a desert. This inhospitable land seemed unfavorable to them for agriculture because of the arid climate, drying winds and terrible thunderstorms.
This region is divided into three main areas.

- To the west stand the foothills of the Rockies, covered with steppes, rather sterile and rocky;
- To the east undulate the lands of the Prairie, where the Basin of the Missouri and the Mississippi tapers into the valleys;
- In the central zone - which encompasses all or part of the Provinces and States of Alberta, Saskatchewan, North and South Dakota, Wyoming and Montana - are the true High Plains, a former domain where 60 million bison grazed in this ideal environment, with no obstacles or predators to prevent them from proliferating. An abundance of antelope, elk and deer mingled with them and all ate the lush grass of these native lands. Bears, wolves, cougars and many other small mammals populated the forests and valleys.

This region is crisscrossed by rivers like the Powder, Bighorn and Platte, which fed lush valleys dotted with islets of forests, vitally important to the nomadic way of life of its inhabitants - the Plains Indians.

Before the arrival of Europeans on the American continent, the Indians had already understood that their strength lay in freedom, but they had to travel on foot: the horse was not present on the continent until the arrival of the Spaniards.

Tribes

In an area of 2.5 million square kilometers, lived 200,000 Indians. Some Indians living on the outskirts of this region were driven back to the Plains by the pioneers who appropriated their lands.

In the Northern Plains

There were eight main First Nations tribes that inhabited the Plains of Canada. Among these the Blackfeet, Blood, Peigans, Gros Ventre and Plains Cree spoke a language related to the Algonquin language. The Assiniboine and the Sioux spoke languages related to the Siouenne family. While the Sarcee spoke an Athapaskan language.

The Blackfeet (or Siksika) had territory east of the Rocky Mountains at the site of the present-day cities of Edmonton and Calgary. The Blackfoot, along with their allies the Bloods and Peigans, formed a powerful alliance. The Bloods lived southwest of the Blackfoot, near the foothills of the Rockies. The Peigans lived south of the Bloods, in what are now Lethbridge and Medicine Hat.

Before 1800, the Gros Ventre lived east of the Peigans. The Plains Cree territory extended from the northern edge of the plains, south of Churchill River to the eastern edge of Blackfoot territory.

The Assiniboine occupied all of the area south of the Plains Cree from the eastern plains of Blackfoot territory. The Sioux (or Dakota) was a large Confederacy scattered over the American Plains and western Canada. Today, several hundred Sioux live on reserves in Manitoba and Saskatchewan. They are the descendants of the refugees who came to Canada under the leadership of Sitting-Bull after the defeat of the American cavalry in 1876 at Little Big Horn. The Sarcee, who came from the north through Lesser Slave Lake (Alberta), lived along the upper Athabasca River, northwest of the Blackfoot.

PALEOINDIAN PLAIN ARCHEOLOGY

Áísínai'pi, or Writing-on-Stone, is a complex of rock sites in southern Alberta where we find the greatest concentration of images of the Great Plains. Thousands of petroglyphs and hundreds of pictograms are spread over more than 150 sites. Most are located in Writing-on-Stone / Áísínai'pi Provincial Park, a Canadian National Historic Site. This rock complex is located in a sacred place in the traditional territory of the Niitsítapi (Blackfoot).

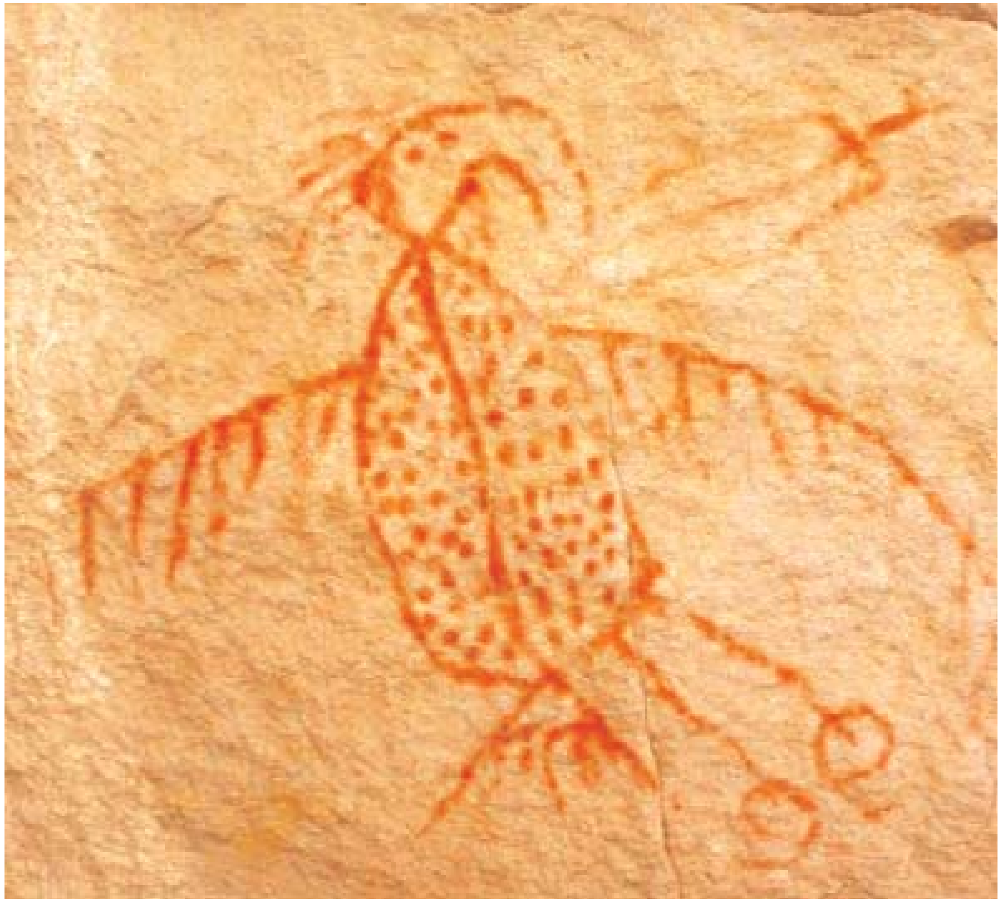
Áísínai'pi is a word in the Nitsipowasin or Niitsipussin language which means "it is illustrated, it is written". Writing-on-Stone is an English adaptation of this native toponym.

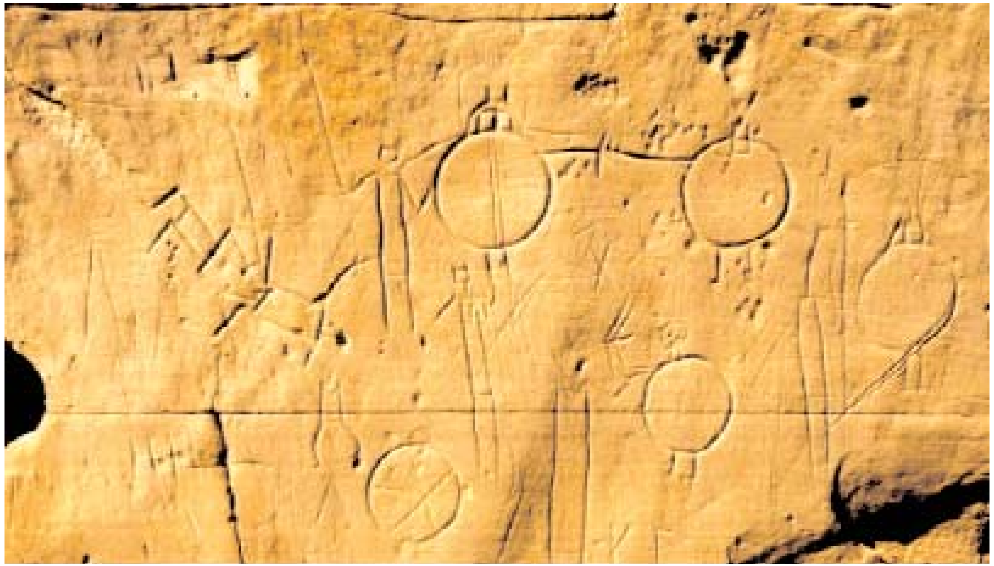
In the land of hoodoos or "fairy chimneys"

The rock sites are located in the valley of the Milk River which crosses the grassy prairies of the Great Plains. The Áísínai'pi region is characterized by high cliffs bordering the river and hoodoos (fairy chimneys). These fantastically shaped coins are made up of eroded friable rocks, themselves surmounted by other rocks that are more resistant to erosion. The Sweet Grass Hills, located approximately ten kilometers to the south in the state of Montana, complete this spectacular landscape.

Rich and varied flora and fauna abound in the Áísínai'pi region. There are riparian forests of cottonwood trees, two species of cacti (Escobaria vivipara and white-mane snowshoe), silver chamomile bushes and arctic roses. Over 160 species of birds have been recorded in the park, including Canada geese, golden eagles, prairie hawks, great horned owls, azure bluebirds and sage mockingbirds. Mammals such as the beaver, yellow-bellied marmot, white-tailed deer, mule deer, American antelope and nuttall's rabbit rub shoulders with reptiles such as the rattlesnake or rattlesnake, Western snake and the plains snake.

The rock complex is mainly associated with the Niitsítapi (Blackfoot) and their ancestors who come from three different nations: the Kainai, the Piikáni and the Siksika. The Niitsítapi are part of the Algonquian linguistic family. Traditionally nomadic buffalo hunters, they were also formidable warriors. Other nomadic groups such as the Cree, the Gros Ventres, the Assiniboine or the Shoshones, were also able to create these images. The oldest rock works on this site date from 2,000 to 3,000 years ago. A good part of these representations date back to the periodlate prehistoric times, either from the 3rd to the 18th centuries and several others in the historical period, or from the 18th and 19th centuries as evidenced by certain engravings of horses and European weapons.





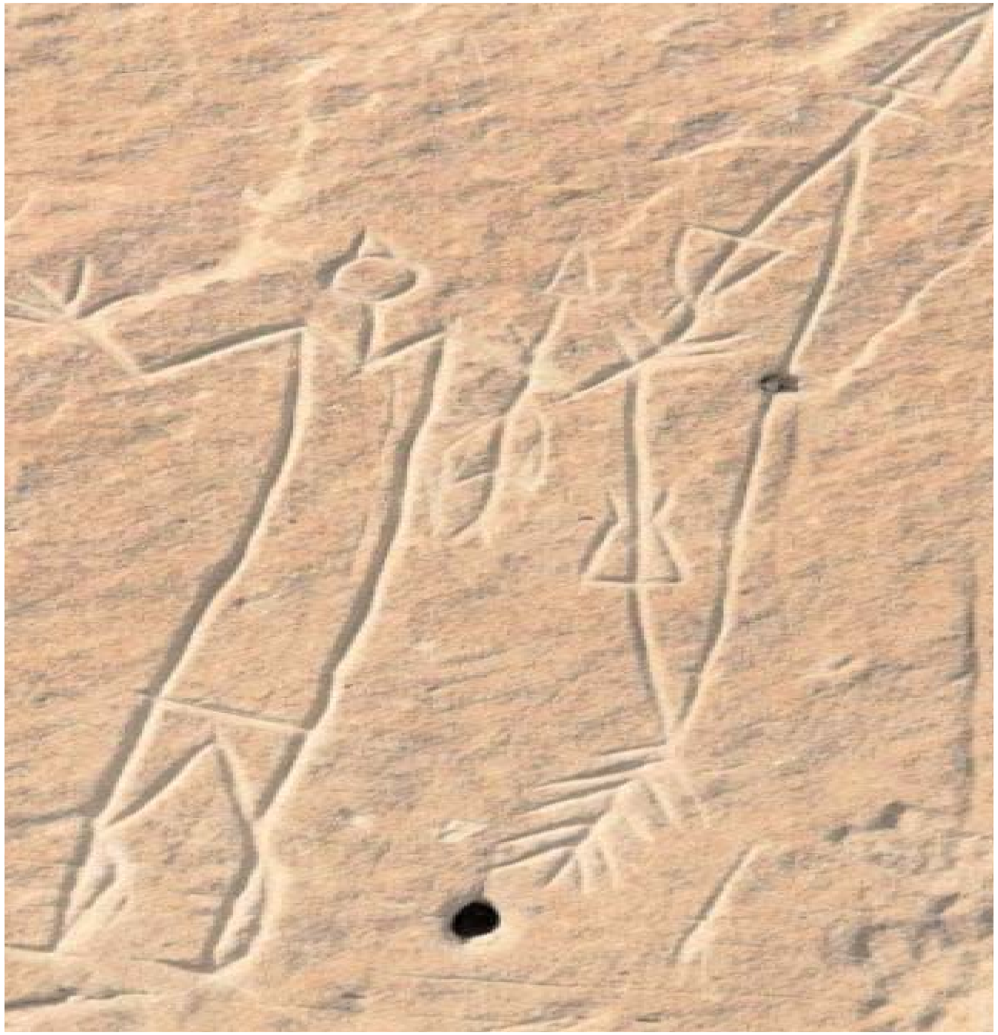
Battle scene
Depictions of battles are associated with the biographical art that proliferated during the historical period. This scene illustrates a battle on the ground, in which five warriors are protected by large round shields. The two inverted figures on the left probably represent the dead. The absence of horses or European weapons indicates that this is one of the rare accounts of the late prehistoric period.

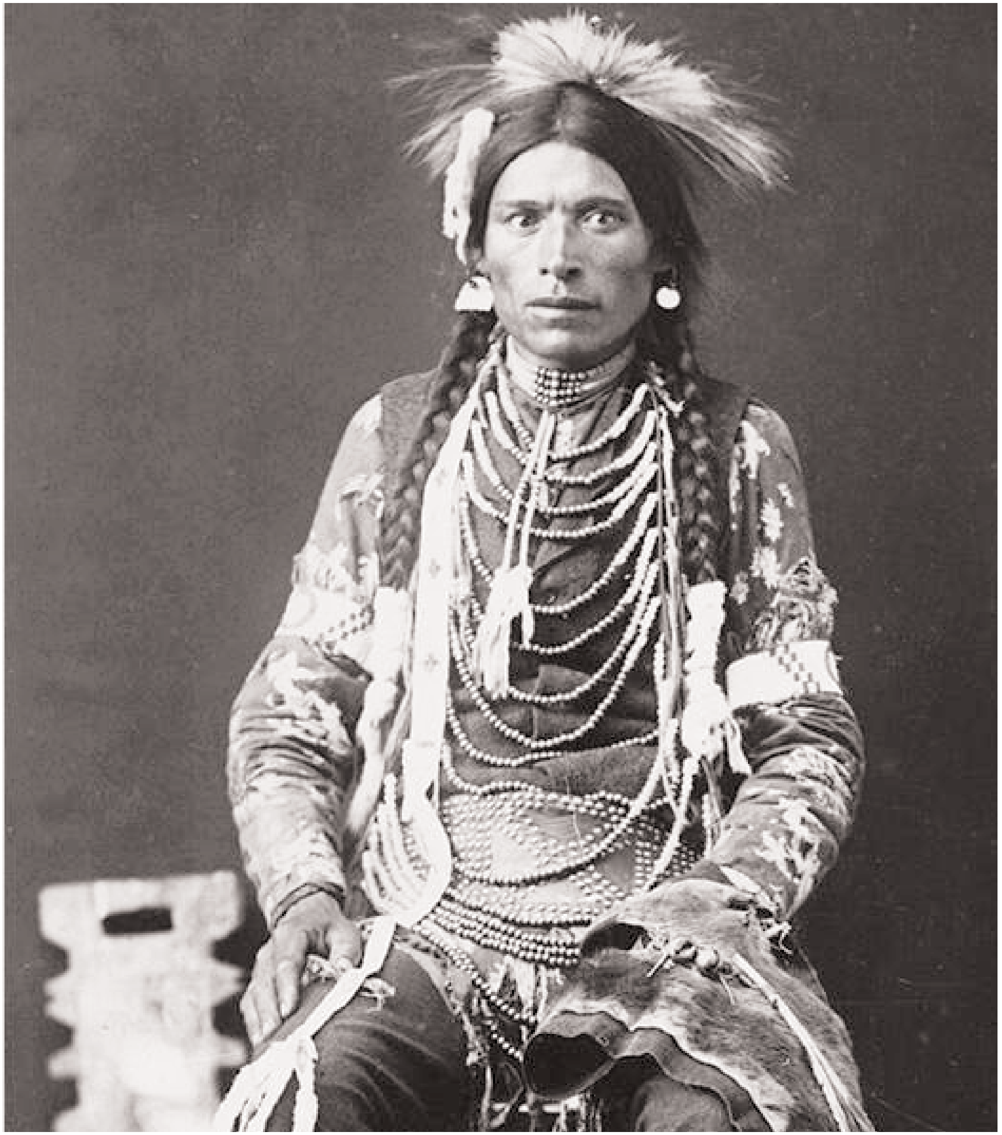
The Thunderbird is a very powerful mythical character from the celestial world; he lives in a cave in the mountains. Every spring it brings thunderstorms and rain. The flapping of its wings produces thunder as its eyes shoot lightning. Its extraordinary power is well known. It is frequently found illustrated in the arts of the Great Plains. This Thunderbird, painted in red ocher on the ceiling of a rock shelter, has a wingspan of over a meter. Here, the zigzag line emerging from its left wing represents lightning or its spiritual powers.

Warriors

The rock art in Áísínai'pi mainly represents human beings.

There are figures with V-necks associated with ceremonial art. These figures are more or less elaborate and can also be adorned with details such as sexual organs, internal organs like the kidneys or lines of the heart. These representations are often associated with objects of material culture. The figures wear headdresses or clothing with fringes and hold weapons (bows and arrows) or ceremonial objects. Here, the figure with his arms raised in prayer may be honoring the spirits, and his weapons symbolizing power and strength.





COMANCHE

A nomadic group from North America who in the 18th and 19th centuries roamed the Southern Great Plains, the Comanche are an offshoot of the Shoshone of Wyoming; before migrating south, they had lived in a semi-sedentary way of hunting and gathering. They headed south in successive stages. At the start of the 19th century, the Comanche were a powerful tribe that numbered between seven thousand and ten thousand people. Their language, which belongs to the Shoshone branch of the Uto-Aztec linguistic family, became the lingua franca of most of this region.

The Comanche were divided into twelve autonomous bands. These local groups had neither lineage, classical or tribal organizations, nor military societies, which are usually found among other Plains Indians. The Comanche did not perform the sun dance until 1874, nor any other tribal ceremony for that matter. For the Comanche, religious life essentially consisted of experiencing individually, at puberty, a supernatural revelation that one obtained through fasting and solitude. The bison provided the basis for their food and clothing, as well as the cover for their teepees; moreover, with the tendons of the animal, they made thread and, with the stomach, they made bottles to carry water.

The Comanche were one of the first Indian tribes to obtain horses from the Spaniards and, to some extent, the only ones to breed them.

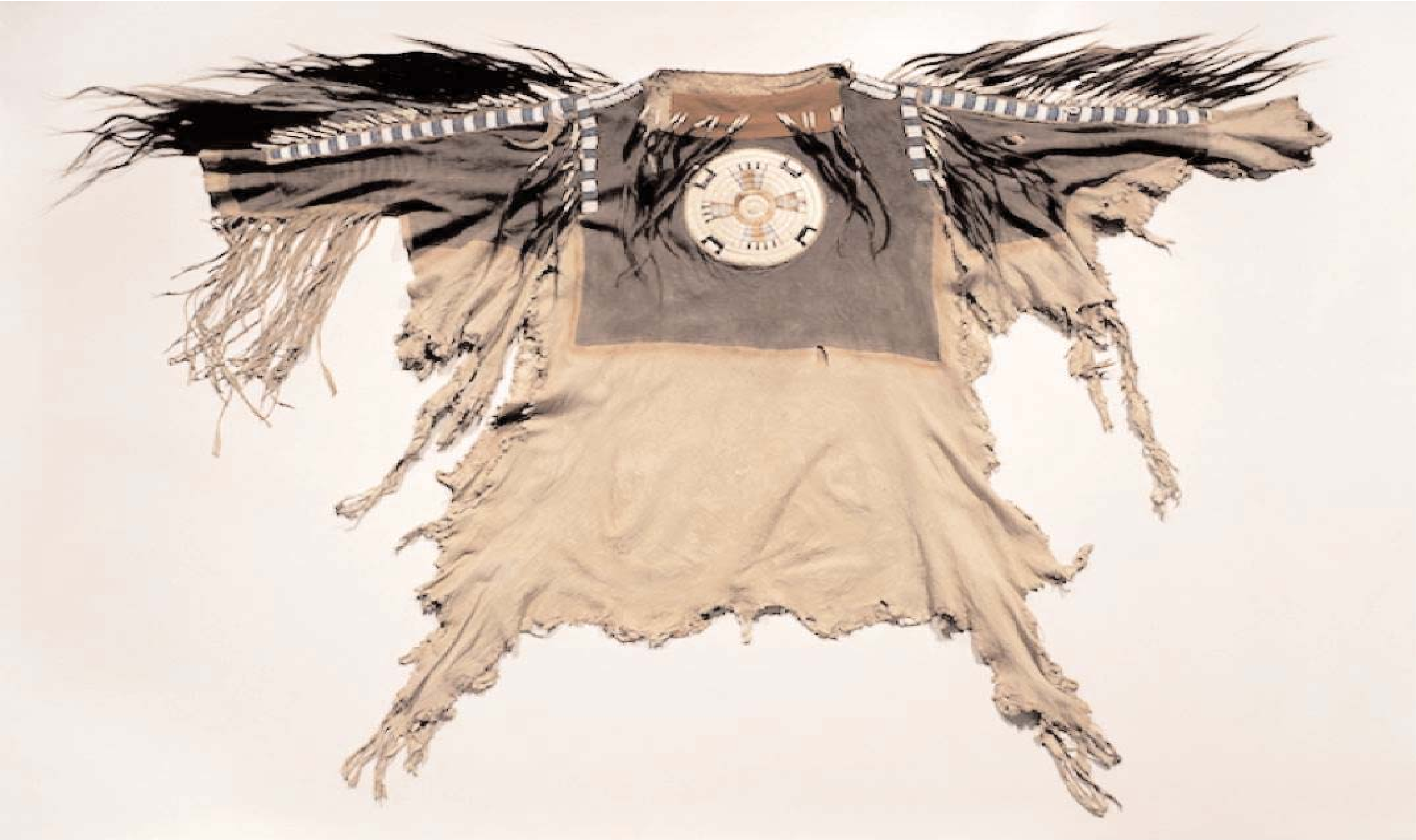
APACHE

Native American ethnicity of southwestern North America, who played an important role in the history of this region during the second half of the 19th century. Led by leaders such as Cochise, Mangas Coloradas, Geronimo, and Victorio, the Apaches lived in Arizona, Colorado, New Mexico, Texas, as well as north of Chihuahua and Sonora, in present-day Mexico. The ancestors of the Apache probably arrived in the Southwest, around the year 1000. As soon as the horse made its appearance, these Indians and other Apache plains were strongly driven south and west by the Comanche and the Ute.

From a cultural point of view, the Apaches are divided into two groups: the Eastern Apache (Mescalero, Jicarilla, Chiricahua, Lipan, Apache Kiowa) and the Western Apache (Cibecue, Mimbreno, Coyotero, Tonto from the North and of the South, also called Apache Mogollon). The lack of centralized tribal organization is the main characteristic of the Eastern Apache and the Western Apache, with the exception of the Apache Kiowa. Autonomous gathering of small local groups within a specific region, the "band" formed the fundamental political group as well as the base group for wars and raids; the most powerful leader within the local groups became de facto that of the band, and several bands could be united under the leadership of a leader.

The function of the Apache shamans was to heal the sick and ensure the well-being of the tribe. The Apaches believed that girls had special powers at the time of puberty that brought fertility and health to the whole tribe, so girls' rites of passage through puberty formed an important part of their ritual. They lived on hunting and gathering wild plants, but also on the products of cultivation and looting. For example, the Jicarilla grew corn and other vegetables, but like other Plains Indians, they also hunted buffalo.

Indians of the plains of North America who belong to the linguistic family of Algonkins, the Arapaho lived, in the nineteenth century, along the rivers Platte and Arkansas. Their oldest myths suggest that they were once sedentary and lived in villages established in the forests of the East, where they practiced agriculture. They gradually emigrated to the west and, after 1830, divided into northern and southern groups; the southern group settled in the Arkansas River region.



Chemise (poncho à manches) d'homme, vers 1830, artiste des Plaines du Nord, probablement Blackfeet. Reflétant la vision du monde des chasseurs amérindiens, cette chemise, dans le respect de la forme des peaux utilisées, cherche à préserver l'identité et la puissance spirituelle de l'animal. Plus qu'un vêtement de protection contre le mauvais temps, il s'agirait de tenues de cérémonie réservées aux chefs et aux guerriers d'exception. Les larges rosettes en piquants de porc-épic sur le devant et le dos représentent le Soleil et la Lune et rappellent les cercles peints sur la poitrine des guerriers et des hommes en quête de vision. Le motif en croix figure l'Étoile du Matin, fils du Soleil et de la Lune. La griffe est un ajout personnel, signe de puissance. Quant à la frange de cheveux, il s'agissait d'un don que faisaient les membres d'une communauté. Peaux d'antilope ou de mouflon, broderie de piquants de porc-épic, perles de verre, pigment, crin de cheval, boucles de scalp, tendons et griffe de grizzli. Dim. : 100 x 70 cm. © Bernisches Historiches Museum, Berne, Suisse, coll. L. A. Schoch, Inv. 1890.410.7.

OJIBWA or CHIPPEWA

Indians of the Algonquin language group, who once lived on the north shore of Lake Huron and the shores of Lake Superior, the Ojibwa are also found in the Canadian territories west of Lake Winnipeg, where they are called theSaulteaux.

Each Ojibwa tribe was subdivided into nomadic bands. In the fall, the bands split into family groups which dispersed to their respective hunting grounds; in the summer, families often met on the fishing grounds. A few groups grew corn, the Ojibwa also harvested wild rice, their staple food. They used birch bark extensively to make their canoes, dome-shaped wigwams, and various utensils. The exogamic clans, represented in the different bands, gave a certain unity to these groups which had neither tribal chiefs nor national chiefs.

Originally, the band leaders were not very powerful; but, after the establishment (around 1670) of relations between the Ojibwa and the first French fur traders, this function took on importance and it became hereditary in the paternal line. The midewiwin was the most important Ojibwa ceremony.

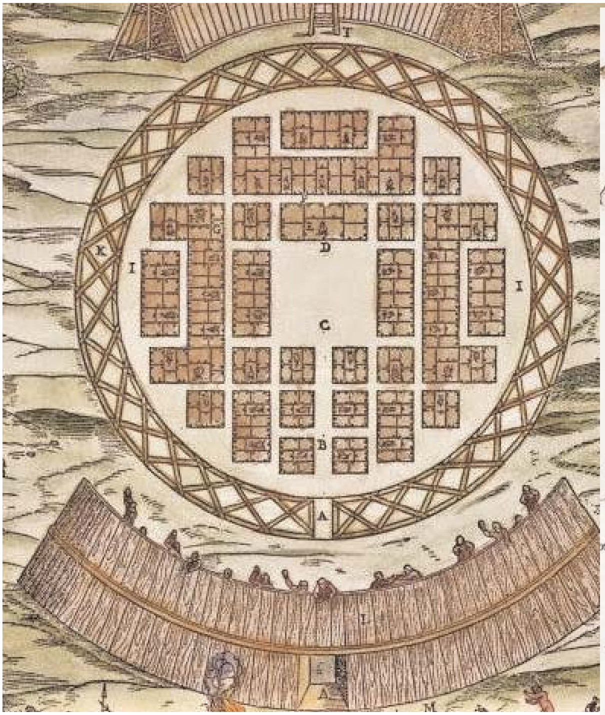
Every year, the "great medical society" was celebrated there, a secret religious organization which was open to both men and women. If you belonged to this society, you received supernatural assistance and had a certain prestige. The midé, that is to say the shamans, could make the rain fall, foresee the future, help the warriors. The songs, prayers and ceremonies of the mida represented the entire religion of the Ojibwa. To become a midae, you had to undergo a fairly long apprenticeship: you had to know the plants and know how to use the pictograms which made it possible to memorize the knowledge of the shamans.

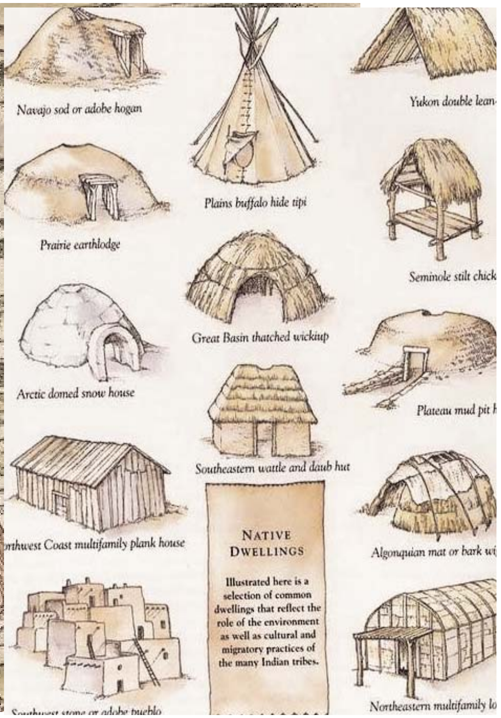
THE FIRST PEOPLES

Eastern North America

Archaeological findings tell us that eastern North America has been inhabited for over 12,000 years, while the continent's first inhabitants arrived more than 30,000 years ago. However, these are regions that did not experience glaciations, such as the Yukon. However, ice covered most of Canada and much of the United States until 10,000 BC. This is why the native occupation of the United States generally dates from this period. After the retreat of the glaciers (8000 years before our era) towards the North Pole, the natives would have returned to the North to repopulate a large part of the North American territory. They would have populated the entire continent along the Pacific coast to the southern tip of South America, where the Incas and Aztecs, for example, created great empires. Other groups of hunters reportedly moved north to the Great Lakes and beyond, deploying into the Atlantic Ocean.

When Europeans began to settle in North America in the 17th century, Native Americans were scattered across the continent and spoke hundreds of different languages. The names by which the communities are now known are those of their linguistic families. The ethnic and cultural diversity of the first peoples was relatively strong at the dawn of European colonization, depending on whether they were in Alaska, east, south of the Great Lakes, southwest, or near the Pacific. Without a doubt, one of the most vibrant communities was that of the Iroquois living in the St.Lawrence Valley, the Lake Erie and Ontario region, the Hudson River Valley and the western part of the Appalachians (a vast mountainous region in eastern North America, almost parallel to the Atlantic coast, from the province of Quebec to northern Alabama.




Navajo sod or adobe hogan
Plains buffalo hide tipi
Yukon double lean-
Prairie earthlodge
Seminole stilt chick
Great Basin thatched wickiup
Arctic domed snow house
Plateau mud pit h
Southeastern wattle and daub hut
rthwest Coast multifamily plank house
NATIVE DWELLINGS
Illustrated here is a selection of common dwellings that reflect the role of the environment as well as cultural and migratory practices of the many Indian tribes.
Algonquian mat or bark wi
Southwest stone or adobe pueblo
Northeastern multifamily lo

Carte de la Nouvelle-France, 1607 par Samuel de Champlain, ©Sam
Champlain/Bibliothèque du Congrès Washington, USA

The Iroquois had at least six large communities: Tuscarosa, Senecas, Cayugas, Oneidas, Onondagas, and Mohawks. All of these peoples have today left descendants in Canada and the United States.

Another equally important group in this region of the United States, the Northeast, was undoubtedly the Algonquins. These also included various peoples, including the Abenaki, Ojibway, Fox, Chippewa, Delaware, Cheyenne, Arapahos, Shawnees, etc.
During the time of the first European colonies in North America, the Algonquin peoples occupied not only what is now New Brunswick and much of Canada, but also New England, New Jersey, the South east of New York, Delaware and the entire Atlantic coast, as well as around the Great Lakes in Minnesota, Wisconsin, Michigan, Illinois, Indiana and Iowa.

At the time of the arrival of Europeans, the hegemonic Confederacy of the Iroquois, based in present-day New York and Pennsylvania, was regularly at war with its Algonquin neighbors. As for the Abenaki people in particular, they were located in northern New England in what is now Maine, New Hampshire and Vermont in what is now the United States, and also in the east. Quebec (then called Canada); they had established trade relations with French settlers who had settled along the Atlantic coast and the St. Lawrence River.

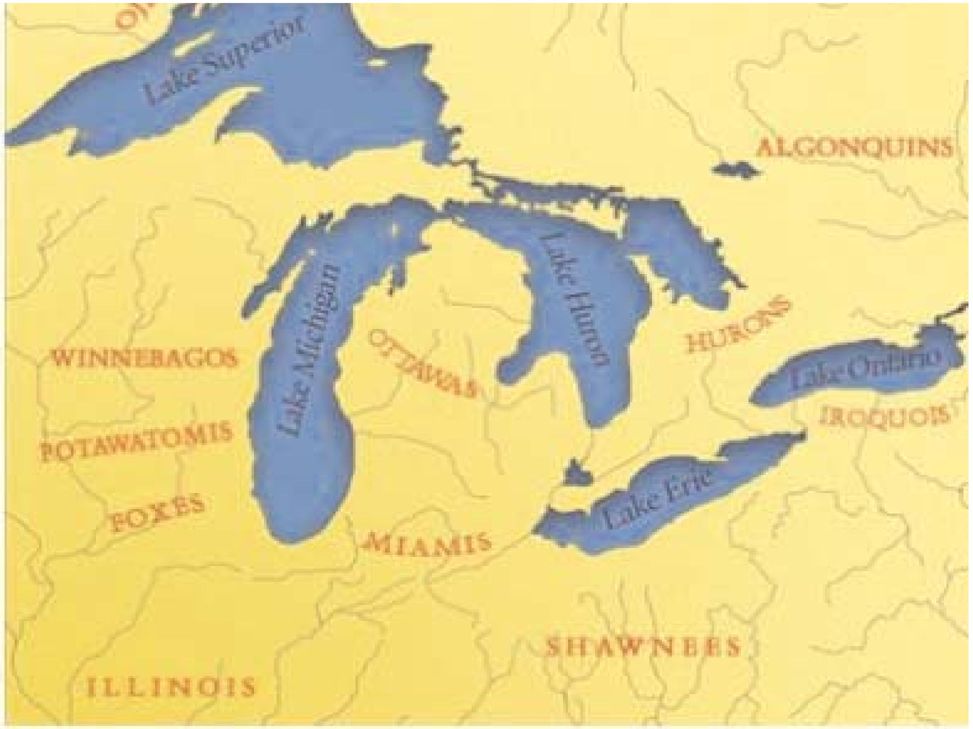
The French met Algonquian peoples also in the "Midwest" through their trade and the limited settlement of New France along the Mississippi and Ohio rivers. The historic peoples of the "land of Illinois" were the Shawnee, Illiniwek, Kickapoo, Menominis, Miami, Sauk, and Meskwaki. In the "High West" were the Ojibwa, Chippewa, Odawa, Potawatomi and various Cree groups living in the upper peninsula of Michigan, Wisconsin, Minnesota and the Canadian prairies. All these peoples spoke Algonquian languages.

Indians in the northeastern United States began to interact regularly with Europeans in the early 16th century. Most of the visitors were French or English, and at first they were more interested in cartography and commerce than in physical conquest. Like their southeastern counterparts, most Native Americans in the northeast depended on a combination of agriculture and food, and many lived in large walled settlements. However, communities in the Northeast have generally avoided the social hierarchies common in the Southeast. Oral traditions and archaeological material suggest that they experienced increasingly fierce intertribal rivalries in the century before colonization; It was assumed that these ongoing conflicts made the nations of the northeast much more prepared for offensive and defensive action than the peoples of the southwest or southeast.

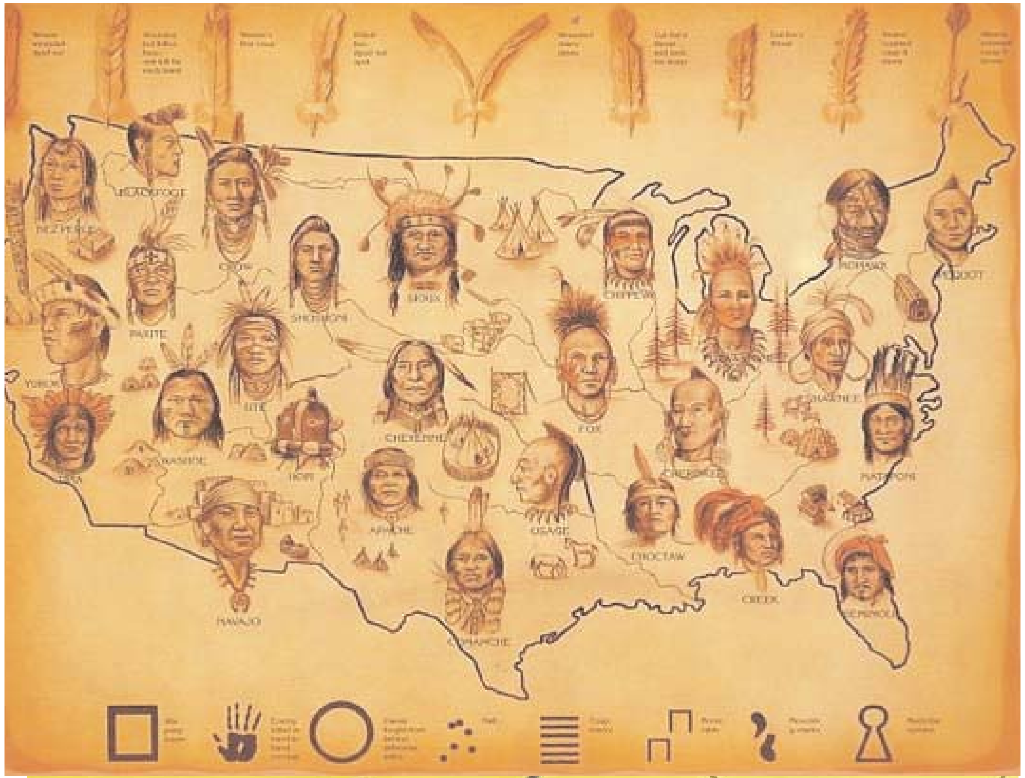
Further south, we find the Muskogeans (Muskogeans) settled near the Mississippi and the Atlantic, from the Appalachians to Florida: Streams, Cherokees, Choctaws, Chickasaws and Seminoles. In the regions of Virginia and North Carolina, as well as in the center of the continent, lived the Sioux: Assiniboine, Crows, Dakotas, Lakotas, Hidatsas, Iowas, Kansas, Osages, Omahas, Ponas, Quapaws. In the southwest, the sedentary peoples lived in a semi-arid territory, the Athapaskans: the Hopi, the Navajos and the Apaches. Other Atapaskans lived in the North: Kaskas, Tananas, Chipewayans, Kutchins, etc. Finally, in today's Alaska, there were the Inuit.

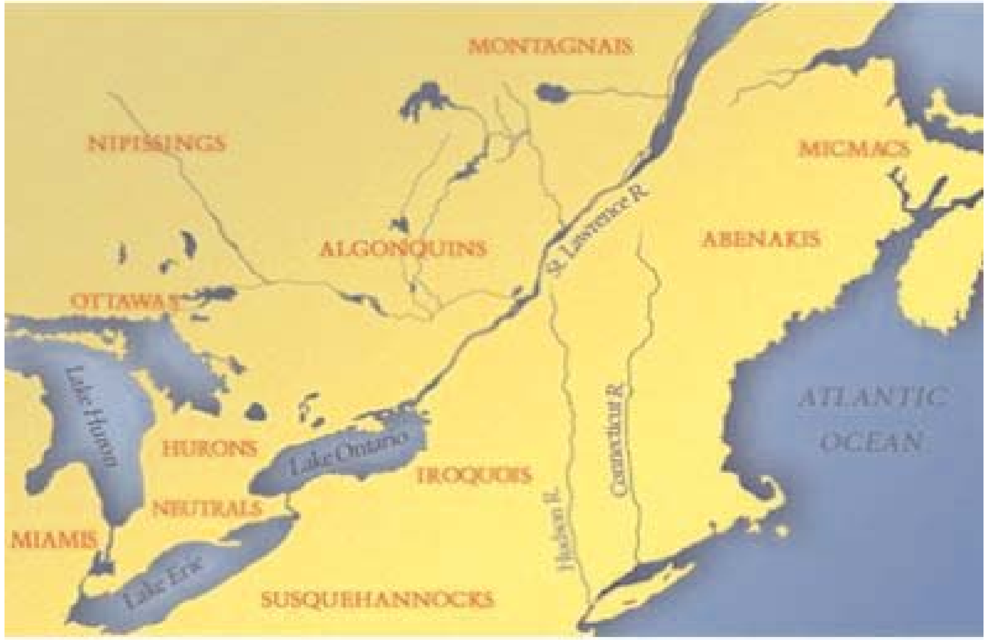
These peoples of America were ignored for ignoring the name of the Indians. Believing themselves to be in India, it was the Spaniards who gave the natives the name Indians (in Spanish: Indio in the singular and Indios in the plural). In fact, Christopher Columbus had baptized the native Indians because he could not correctly estimate the real size of the globe! Later, the French will also designate the natives as Indians or savages, the latter term having fallen into disuse only during the twentieth century. The British and later the Americans will use the term Indians, but will add Indiens Rouges (French Redskins) who will oppose Pale-Face (French: Faces pale). In the United States, we now prefer to use the terms indigenous peoples (Amerindians or Native peoples), Native ("natives"), tribal group ("tribal group"), or, more rarely, autochthon (Native peoples or Native nations).

In Canada, First Nations or First Nations are frequently used. In Latin American countries, in addition to the words Indio / Indios, Indígena / Indígenas, Indigenous Communities / Indigenous Community, sometimes a tribal group ("tribal group") and, more rarely, indigenous ("indigenous"). Often these terms are opposed to civilized ("civilized").

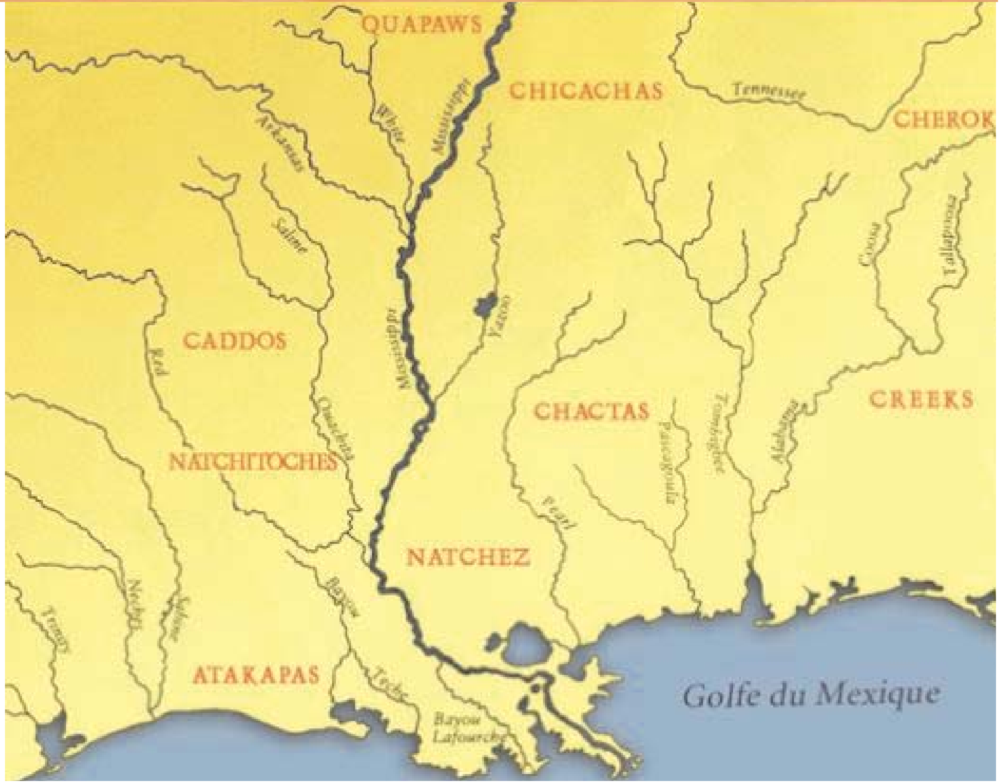


Zone des Grands Lacs





Basses Terres du Saint-Laurent et zone côtière

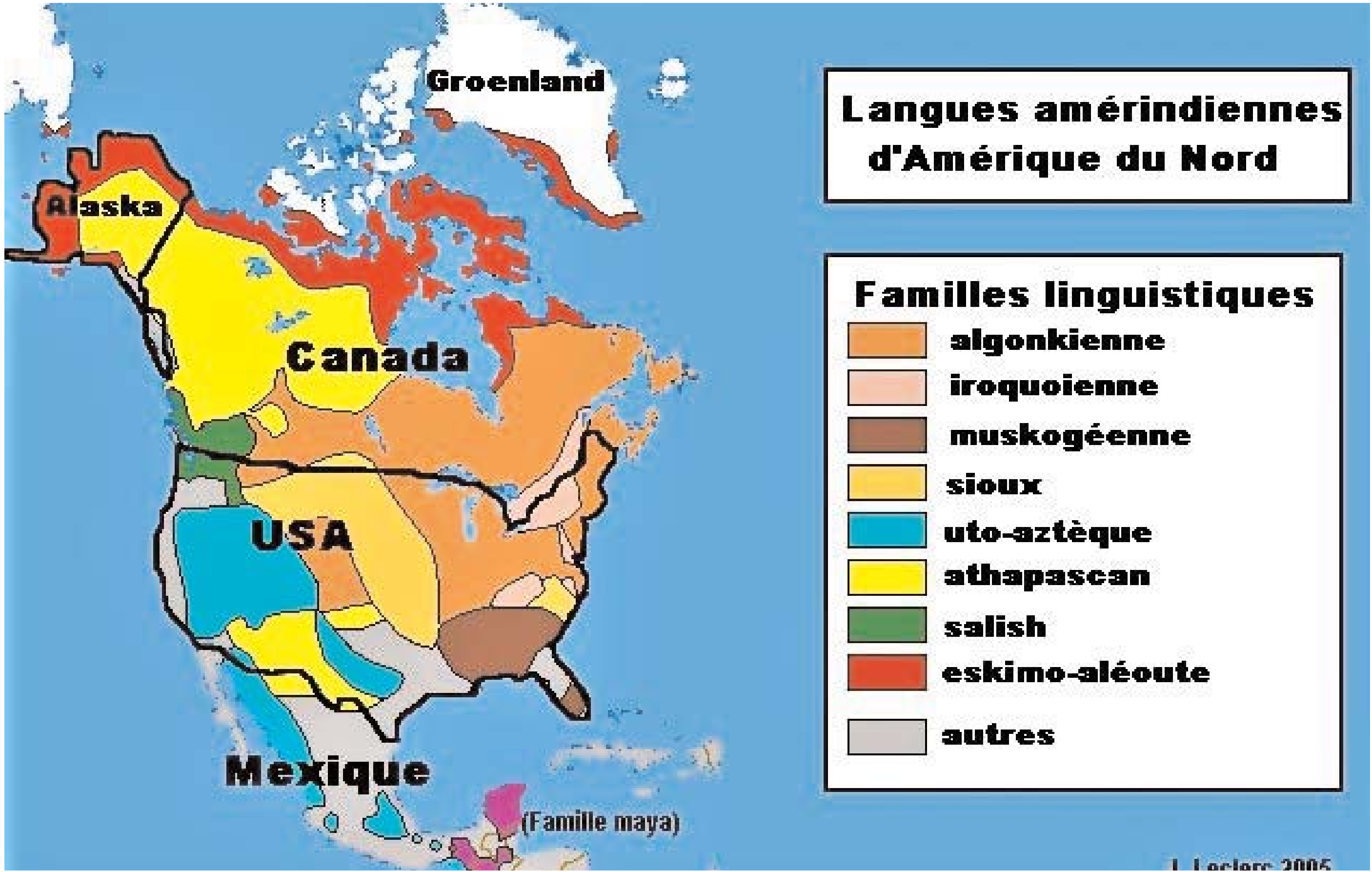


The languages of indigenous peoples

The map below shows eight major language families (minus the Mayan family) that existed in present-day North America before their speakers were largely displaced by Europeans. Obviously, some families have spread both in Canada and in the United States or Mexico.

The talking strings

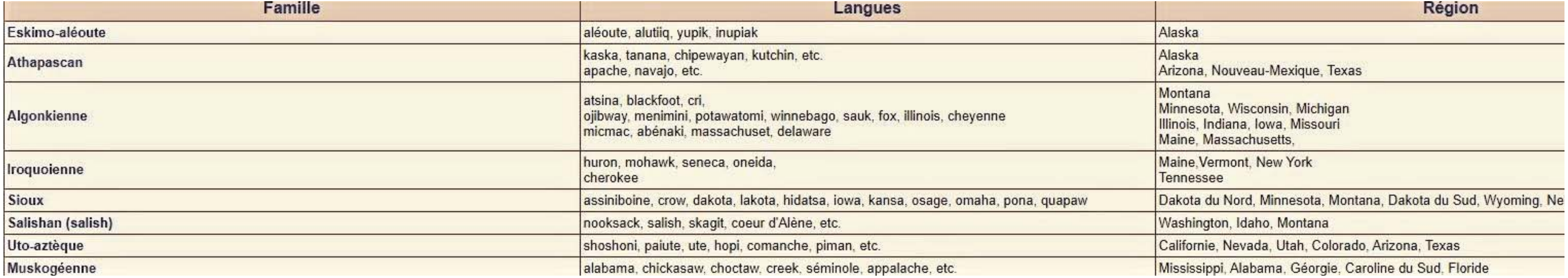
If genetics show us that there was indeed a migratory continuity from Siberia to Beringia and then from North America to the South, then we should also have cultural correlations. Of course, there are a lot of them. But the most enigmatic is the use of an almost secret expression code: the wampun in the north, the quipa in the south.



The North American Indian wampum

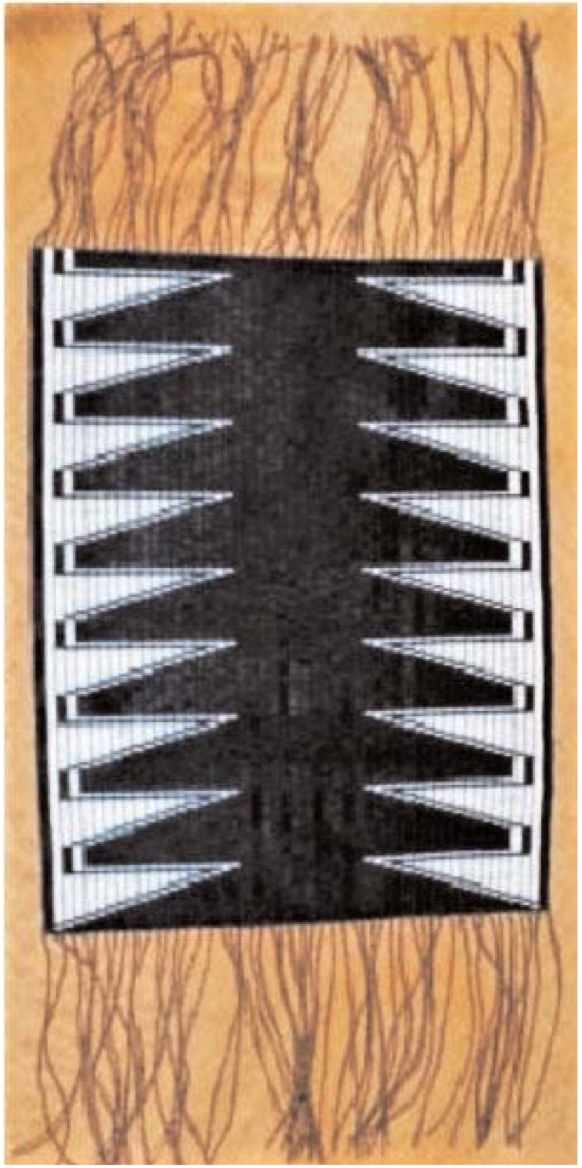
Wampums, whose name derives from a narragansett word (from the Algonquian language family) meaning "string of white seashells", are tubular pearls made from seashells from the Atlantic coast. Different seashells can be used, but the white pearls are mainly from whelk shells (also called sea snails) and the purple pearls from clam shells (a kind of clam).

Many indigenous nations in the northeast of the continent used wampums to record and send messages. The wampum consisted of purple and white pearls cut from mother-of-pearl clam shell.



Famille	Langues	Région
Eskimo-aléoute	aléoute, alutiiq, yupik, inupiak	Alaska
Athapascan	kaska, tanana, chipewayan, kutchin, etc. apache, navajo, etc.	Alaska Arizona, Nouveau-Mexique, Texas
Algonkienne	atsina, blackfoot, cri, ojibway, menimini, potawatomi, winnebago, sauk, fox, illinois, cheyenne micmac, abénaki, massachuset, delaware	Montana Minnesota, Wisconsin, Michigan Illinois, Indiana, Iowa, Missouri Maine, Massachusetts,
Iroquoienne	huron, mohawk, seneca, oneida, cherokee	Maine,Vermont, New York Tennessee
Sioux	assiniboine, crow, dakota, lakota, hidatsa, iowa, kansa, osage, omaha, pona, quapaw	Dakota du Nord, Minnesota, Montana, Dakota du Sud, Wyoming, Ne
Salishan (salish)	nooksack, salish, skagit, coeur d'Alène, etc.	Washington, Idaho, Montana
Uto-aztèque	shoshoni, paiute, ute, hopi, comanche, piman, etc.	Californie, Nevada, Utah, Colorado, Arizona, Texas
Muskogéenne	alabama, chickasaw, choctaw, creek, séminole, appalache, etc.	Mississippi, Alabama, Géorgie, Caroline du Sud, Floride

The indigenous peoples living along the coast collect the shells, make the pearls and trade them inland, for example, exchanging them in the Haudenosaunee for skins, corn, beans or squash. These pearls were of considerable value in eastern Canada and the Maritime Islands. They were valued there as ornamental or ceremonial objects, as well as for the fur trade and diplomatic exchanges, especially in the 17th and 18th centuries.



Wampums are strung or woven to make bracelets, necklaces, scarves, and later belts that serve as physical representations of political cartels. The patterns symbolize events, alliances or family ties between different people.
So, wampums can be used to confirm ties, ask someone to marry, atone for murder, or pay ransom to free prisoners. Beads and belts also validated treatises and represented oral traditions. In many communities, wampum keepers are responsible for protecting the belts and interpreting the stories they tell.

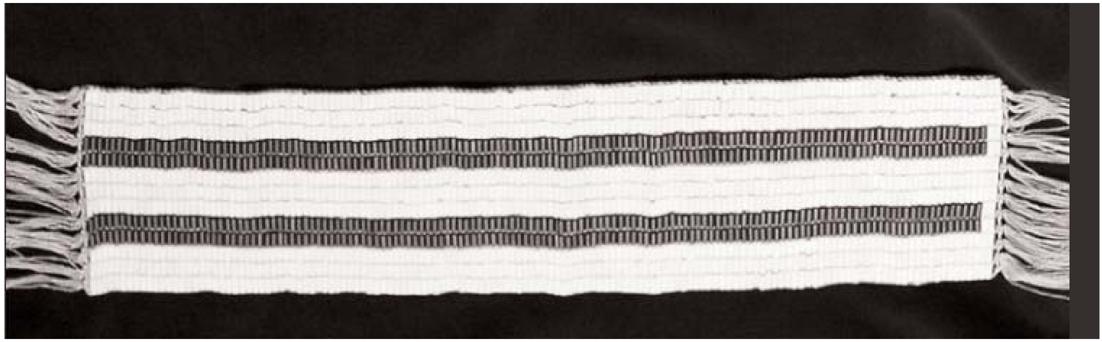
The endless wampum tree represents this tree of peace that grows endlessly. In short, this means that our different peoples must evolve separately. This reading insists on respect for a space of autonomy which is articulated in a strict separation between indigenous and non-indigenous societies. The accounts served as a reminder to the sender to convey the entire message. Considered sacred objects, wampums inspired a deep respect because they carried messages of supreme importance.

We use a wampum for:
* establish, maintain or interrupt political alliances between Amerindian nations and, between nations of the same alliance, conclude peace agreements and take decisions of common interest;
* form and maintain family relationships and make marriage proposals;
* show the important role of certain people within a nation or a tribe;
* practice spiritual ceremonies;
* seal alliances, treaties or agreements with Europeans

They are particularly important for treaties and covenants between indigenous peoples and European colonial powers. Wampum belts are used to represent agreements made between peoples. (George Washington sent wampums to Native American peoples with whom he wished to ally.)
Gus-wen-tah and coexistence based on respect, peace and friendship.

Three horizontal rows of white pearls surround each row of purple pearls. All this whiteness makes sense. One of these white lines embodies a principle of respect, the other a principle of peace and the third, a principle of friendship which must bind indigenous and non-indigenous peoples.

The two purple rows never touch. They eternally evolve in parallel without interacting. This reading insists on respect for a space of autonomy which is articulated in a strict separation between indigenous and non-indigenous societies. In short, this means that our different peoples must evolve separately. Symbolizing a fundamental philosophical principle of respect and friendship, the belt can be used as a vehicle to improve relations between indigenous peoples. Beads and belts also accepted treatises and represented oral traditions. In many communities, wampum keepers are responsible for protecting the belts and interpreting the stories they tell.



The South American quipu

In South America, the Incas built a huge empire, the expansion of which began at the beginning of the 15th century. The "Empire of the Four Pieces", or Tahuantinsuyu in the Quechua language, has spread over the present-day territories of Colombia, Ecuador, Peru and much of Chile, but also across the western part. from the country. Bolivia and northeastern Argentina, for a total area of approximately 2,000,000 km².

The functioning of this empire had nothing to envy that of the European kingdoms: based on compulsory labor imposed on the population, agricultural and manufacturing production was the subject of impeccable centralization managed by a complex and hierarchical administration. The Incas, however, ignored writing. Why was this instrument never developed, yet considered essential to the cohesion of any empire? If they didn't feel the need, it was because they had a unique and extremely precise recording system: the quipu.

However, a simple bundle of knotted ropes, the quipu (from Quechua khipu, "knot") formed the basis of a complex system used by quipus keepers (or quipucamayocs) to record anything that could be of use to the eyes. the citizen. Empire. The amount of information these textile artifacts could recall astonished 16th-century Spanish chroniclers. José de Acosta, for example, made this description: "These quippos are memorials, or discs, which are made of branches in which there are various knots and various colors which signify various things, and it is strange that what 'they' expressed and represented. This medium. For quippos, they are worth as much as history books, laws, ceremonies and records of their affairs. "Pedro Sarmiento de Gamboa found" admirable to see the details [that the Incas kept] in these modest chains ", while Martín de Murúa explained that" we remember as if it was yesterday [of the recorded events], even much later ".

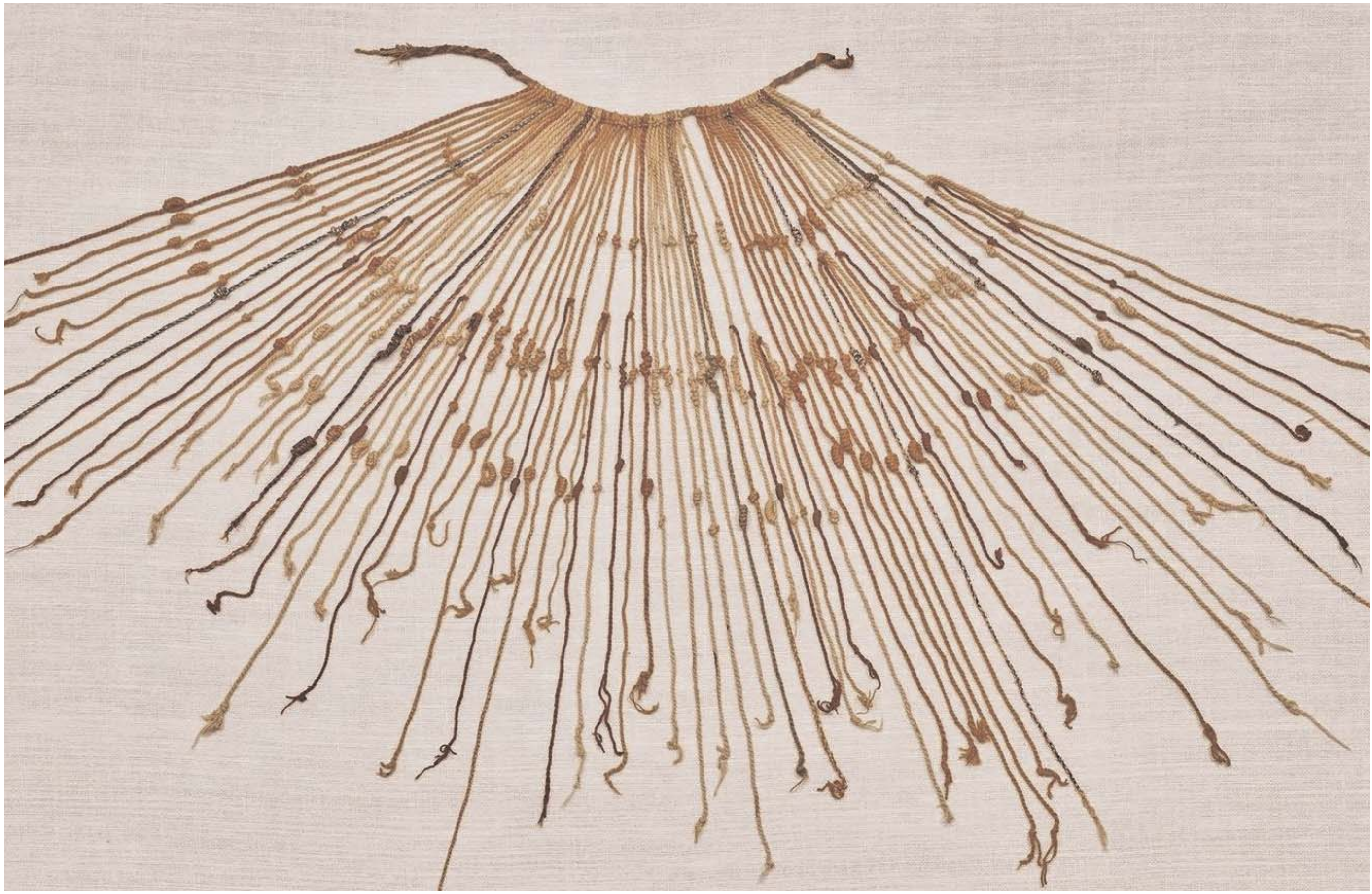
The kip of "memory nodes"

Usually made of cotton or camelid wool (mainly alpaca), quipus were sometimes made of plant fibers or even hair. To make a quipu, it was enough to have a horizontal string (the main string) and to suspend strings vertically (the secondary strings), to which other strings (the subsidiary strings) could be attached. The information was written there in the form of knots placed on the suspended ropes (secondary and subsidiary). Although the length of the cables could vary, the main cable was always longer than the segment from which the cables were suspended.

Different colored ropes can be hung from the same quipu or the same rope. Achieving a monochrome or polychrome result depended on the color of the threads used and how they were wrapped around the cord. There are even strings whose color changes at mid-length. Some are decorated with a distinctive sign, such as a feather the color of a bird, making it easy to recognize the holder's geographical origin.

Empire Archives

Quipus have different types of knots, simple or compound, observation of which revealed that the choice of whether to tie the rope on the left or on the right was a deliberate one. We also know that the creation of the quipus was not irreversible: the recorded information could be modified simply by undoing and redoing the target nodes.



It is now known that the way of braiding the threads, their color, the distance between the suspended ropes and the main rope, the location of the knots, their shape, their direction and their number corresponded to the variables of the recorded data. The quipus left nothing to chance: every detail mattered. Undoubtedly, its complexity made it easy to archive data of all kinds: administrative (census, tax collection), genealogical, calendar, historical, religious, etc.

Many researchers have tried to crack the code of the quipus. During the 1970s and 1980s, Marcia and Robert Ascher analyzed a corpus of 206 specimens of which they carefully observed the knots (type and location) and strings (color, length and relationship). This study allowed them to discover the existence of numerical quipus based on a decimal notation system (unit, tens, hundreds, etc.), where each type of node corresponds to a value located from 0 to 9. It is therefore possible to "read" the numbers written in strings by adding the number of units, tens, hundreds, etc.

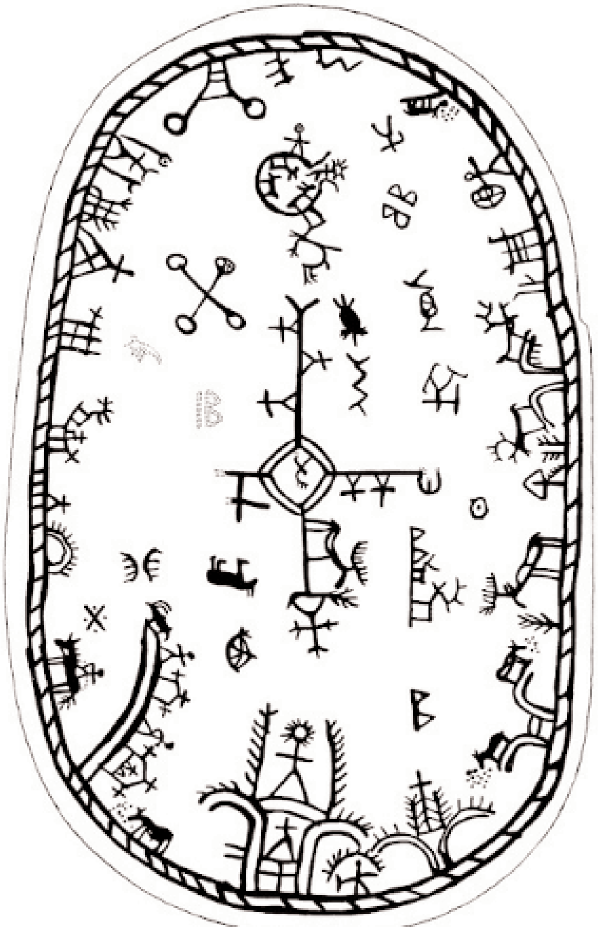
The fall of the Inca Empire therefore changed this ancient tool without undermining its foundations. This is why the Andes are still home to communities that perpetuate its use. Whether they serve as ritual objects or symbols of prestige, or more recently they take the form of textile objects very far from the Inca quipus, they all bear witness to the deep rooting of "these modest cords" in the organization of companies.

THE AMERICAN TRIBES OF EASTERN AMERICAN

Archaeological research carried out on what was the Canadian heart of New France has revealed very varied occupation sites that reflect the adaptation and development of different Amerindian communities to a very contrasting physical environment. From the south, the first human populations, spread over the territory from 11,000 AA and occupied it as the fauna and flora cover the spaces cleared by the melting of the glacier.

After the glacier melts, the climate warms up considerably to the point where New York enjoys an almost tropical climate. Around 10,800 years ago, New England and Nova Scotia received their first inhabitants and subsequent groups traveled to Newfoundland via the Cabot Strait from Cape Breton Island. It is from Newfoundland that migrants will reach the Lower North Shore, approximately 8,500 years ago. A burial dating from this period was found at Anse-Amour near Blanc-Sablon. It is assumed that the Aboriginal people of the time traveled by canoe rather than bark canoe.

These populations, which archaeologists have called "Paleoindians", practiced extensive nomadism. They were not only specialists in caribou hunting, but also fine stonecutters, preferring varieties rich in silica to make their grooved points, their vastringues, their drills and their beak scrapers. Their cycles of movements on the territory were probably planned in such a way as to pursue herds of large mammals, while ensuring access to the main stone quarries. The Debert sites in Nova Scotia and Mégantic in Quebec are the best known.



Following global warming, the subarctic environment is replaced from 9000-8000 years AA and until around 5000 years AA by mixed forests. The caribou hordes migrate north. The archaeological sites reveal an abandonment of the old chert quarries in favor of materials of less good quality, such as quartz and metamorphic stones. Groups thus reduce their travel and concentrate their activities more in the same places. Large stone points are probably replaced by tools made from antler and bone (which have rarely survived in soils) and a wide variety of rudimentary tools for cutting or grinding are produced. Newly introduced, the stone polishing technique makes it possible to manufacture axes, adzes and gouges. All types of environments are then exploited, in particular those of riparian and marshy environments in the interior, which in a way free the Amerindians from the long and constant journeys on the territory imposed by caribou hunting.

Between 6,000 and 4,000 years ago, the populations occupying the upper St. Lawrence valley also exploited regions such as the Saguenay and the Upper North Shore. For the first time, we can attest to the presence of dogs accompanying hunters on their journey.

Around 5000 years AA, the Amerindian populations living in the lowlands of the St. Lawrence and in the Great Lakes region continued to practice hunting, fishing, trapping and gathering (plants, berries and molluscs) . These "Archaics Laurentiens "more appropriated the territory and then exploited multiple varieties of stone, such as greenish Appalachian cherts, whitish quartzites taken from the Canadian shield or bluish cherts extracted from the Niagara peninsula.

From these raw materials, they have carved slotted points, scrapers, knives and drills of various sizes. They refined their stone polishing techniques and made magnificent points, axes, gouges, net weights, thruster weights and bayonets. Several objects in stone. bones were manufactured for the needs of fishing and the copper extracted from outcrops particularly located in Lake Superior was used to produce a range of tools and ornaments as varied as that made of stone. such as millstones, attests to the transformation of plant materials for consumption. The increased number and geographical dispersion of sites and use The more marked local lithic raw materials show an increase in the population, a reduction in the surface area of exploited territories and less mobility. These groups developed funeral traditions characterized by the use of red ocher and funeral offerings of a quality far surpassing that of everyday objects.

A little after 4000 years AA, the northeast is marked by multiple changes, both in terms of the types of tools, the establishment scheme and funeral methods, which suggests a very strong ideological influence on the part of southern populations referred to as "Susquehanna". The cultural geography which will be described by the first European arrivals is already perceptible around 3000 years AA. In the Maritime provinces, the "Proto-Maliseet / Micmacs / Pesmocody" continue to occupy the territory and exploit its resources, as their predecessors did. These populations, many of whose coastal sites are now submerged, add two innovations to their daily lives, namely the bow and arrow, as well as pottery.

In the St.Lawrence Valley and in the Great Lakes region, the populations known as "Pointe Péninsule / Meadowood / Saugeen" also adopt pottery and massively adhere to a new cutting technology called Meadowood and associated with a lithic material taken from the Niagara Peninsula, the Onondaga chert. The use of tobacco, the use of new polished stone instruments (gorges, aviform stones, tubular pipes), brass ornaments, and the practice of very elaborate funeral behavior will also mark this episode. Although rarely encountered in the Maritime provinces, these manifestations nevertheless coincide with the development of the Proto-Algonquian languages on the Mi'kmaq, Maliseet and Abenaki territories.

Around 2000 AA, we witness the birth of the first horticultural trials in a context where several communities have already opted for a semi-sedentary lifestyle ensured by fruitful fishing and extensive knowledge of the plant resources of the forest. Ceramics are omnipresent and tapered vases entirely decorated with undulating or jagged lines are quickly replaced by globular shaped containers. The paunchs are now the subject of a surface treatment and the decorations are now limited to the upper section, and sometimes even to the facing, a novelty.

The migration of the Iroquoian tribes from Ohio to Pennsylvania and New York begins. These newcomers bring some "habits and customs" including the picking of plants and the manufacture of pottery. The networks of exchange then reach a climax: teeth of sharks from the Gulf of Mexico, seashells from the Atlantic coasts, obsidian from Wyoming and soapstone pipes fashioned in Ohio end up in the hands of the occupants of the northeast.

The last millennium of the prehistoric period will be marked by a major change in the way food is obtained. Without abandoning hunting, trapping, fishing and gathering, the Amerindians are gradually transformed into horticulturalists. A variety of products ranging from corn to cucumber, melon, squash, pumpkin, sunflower, tobacco, pitch and beans of all colors are not only grown and consumed, but also stored or used as currency.

The arrival of horticulture has important socio-cultural consequences. With the arrival of corn, we notice a strong increase in inter-tribal wars. Hunting and warlike exploits have always been the main sources of prestige for Amerindian males. The ultimate test that allowed a hunter to display his talents, his courage, lay in ensuring the survival of his family during the merciless rigors of winter. Since now, horticulture, an area reserved for women, made it possible to adequately feed the community, the men, feeling threatened by this new importance given to women and to working the land to the detriment of hunting, turned to war, the only way they now had to acquire personal prestige. . It is believed that the Algonquins would have forced the Iroquois to migrate to New York State or that they would have simply migrated naturally south in search of land and a climate more conducive to horticulture. We know, because of the high population density of the villages, that the Iroquois generally left their villages 15 years after their establishment.

The dwellings, where one or two families traditionally lived, extend over several meters. The production of plant food makes it possible to settle down and the number of individuals who can live all year or almost in the same place increases tenfold, reaching up to 2000 people.

People living along the Atlantic, like those in boreal forests, are not participating to the same degree in this food revolution and continue to exploit land and marine resources. Some landfills also contain large quantities of mollusc shells which bear witness to long stays on the coast. Traveling on the high seas had no secrets for the Mi'kmaqs: aboard boats up to 9 meters long, these canoeists crossed the 90 kilometers separating Cape Breton (Nova Scotia) from the Magdalen Islands, as evidenced by the similarities of the material discovered at the sites of these two regions.

Algonquians and Iroquoians

At the time of the arrival of the first Europeans, the northeast of the North American continent was occupied by two great linguistic and cultural families, the Algonquians and the Iroquoians.

The Algonquian groups are the most numerous. Although these speak related languages, their lifestyles vary greatly depending on the environment in which they operate. The Boreal and Laurentian forests that stretch from the Maritimes to the prairies of the West are frequented by bands of nomadic hunter-gatherers. While these family bands gather in the summer season on coastal or riparian sites, they split up and disperse in the interior of the land in winter.

The Algonquians also included several peoples, including the Abenaki, Ojibway, Fox, Chippewa, Delaware, Cheyenne, Arapahos, Shawnees, etc.

In eastern Canada, the Algonquian family includes the Micmacs (Gaspésie), the Maliseet (Bas-St-Laurent, the Abenakis (Center du Québec, the Naskapis (Haute Côte-Nord), the Montagnais (Saguenay-Lac-St -Jean-Côte-Nord), the Algonquins (Abitibi-Témiscamingue), the Crees (Baie-James), the Attikamek (Haute Mauricie), the Outaouais (Gatineau) and the Beothuk (exterminated-Newfoundland).

During the days of the first European colonies in North America, the Algonquian peoples occupied not only what is now New Brunswick and much of Canada, but also New England, New Jersey, the Southeast from New York, Delaware and along the Atlantic coast, as well as around the Great Lakes in Minnesota, Wisconsin, Michigan, Illinois, Indiana and Iowa. At the time of the arrival of Europeans, the hegemonic Confederacy of the Iroquois, based in the present-day states of New York and Pennsylvania, was regularly at war with their Algonquian neighbors. With particular regard to Abenaki, they were located in northern New England in what is now Maine, New Hampshire and Vermont in what has become the United States, and also eastern Quebec (which called Canada then); they had established trade relations with French settlers who had settled along the Atlantic coast and the St. Lawrence River.

The Algonquian populations who inhabit the southern Great Lakes to the Mississippi Basin, as well as along the Atlantic coast to the Carolinas, however, have a more sedentary way of life: they cultivate the soil and lead a village existence. The historic peoples of "Illinois Country" were the Shawnee, Illiniwek, Kickapoo, Menominis, Miami, Sauk, and Meskwaki. In the "Upper West" were the Ojibwa, Chippewa, Odawa, Potawatomi and various Cree groups living in the upper peninsula of Michigan, Wisconsin, Minnesota and the Canadian prairies. All these peoples spoke Algonquian languages. Communities that spoke Algonquian languages were among the most populous and best organized Indigenous nations in North America when Europeans arrived.

Territory, mobility and social organization

Algonquians living in the Maritime provinces frequented four types of environment: the marine coastline, offshore islands, riparian environments upstream of the high tide limit, and inland lakes and rivers. Travel was frequent and did not always meet a fixed schedule. For some, winter was lived along the coast, to hunt seals for example, while others preferred to spend this season inland in search of moose. Such conditions would therefore not have made it possible to establish social stratification, as in the communities of the west coast of Canada, for example. The exploitation of fine-grained stones, which were cut or polished to obtain a multitude of tools, was also on the travel agenda. We went directly to the quarries, otherwise we subscribed to a vast supply network.

For example, greenish cherts from Lake Touladi in Témiscouata or burgundy cherts extracted from Lake Munsungun in northwestern Maine were acquired by groups living on the Atlantic coast, while brightly colored cherts from the Bay of Fundy in Nova Scotia were acquired. been traded as far as the Appalachians and the St. Lawrence Valley. And that's without counting the importation of quartzites extracted from Ramah Bay in northern Labrador and the Mistassini sector and Onondaga cherts collected at the junction of lakes Erie and Ontario. The Mi'kmaq, for example, could travel vast distances on the high seas, like the hunters from Cape Breton to the Magdalen Islands.

Algonquian societies in the Maritimes are considered to be essentially egalitarian and archaeological data does not show any marked hierarchy. The Mi'kmaqs, for example, practiced exogamy, thus guaranteeing marriages between different communities. Patrilocal-type bands appointed a male chief who in fact had limited powers. The villages were made up of six nuclear families, or about 30 people, who broke up into smaller groups and came together as they moved through the territory.

In general, the sites were occupied by a few families returning to the same places, year after year. Larger seasonal gatherings took place in estuary areas where the abundance of resources was taken advantage of. These places, posted at the crossroads of major navigation axes, were also essential meeting places. More specifically, areas easily accessible by canoe, very close to a source of drinking water, bathed in the sun and protected from cold winds, were favored.

Open hearths made up of a stone platform about one meter in diameter were used for cooking food and ensured the comfort of the occupants who stayed in circular or oval tents about four meters in diameter. Pits were used to store food reserves to overcome the rigors of winter, as on a site on the Miramichi River in New Brunswick which had up to sixty! Some houses were fitted out by digging the ground half a meter deep. The writings of the Jesuits of the 17th century also evoke a technique of insulation against the cold which consisted in erecting the walls of the dwelling using two layers of birch bark separated by moss.

Eating habits

The coast was full of animal resources: marine mammals, saltwater and freshwater fish, migratory birds and molluscs were exploited in different seasons, depending on their abundance or availability. Nets were stretched at the mouths of rivers to catch salmon, and cod were angled off the coast. Dams made of wooden piles were also used to catch fish, both in open spaces at low tide and at the discharge of lakes. The tidal flats were full of mollusks (oysters and clams) which were pulled out of the mud by the hundreds. When these species were lacking, groups moved inland along rivers and captured beaver or moose. Dogs could be used to track moose and detect the presence of beavers in their cabins. Unfortunately the remains of crustaceans, sweet berries, nuts, cultivated plants, such as corn, or wild varieties such as fiddleheads, have hardly ever survived in archaeological sites, even though they were part of the Diet. Mammalian bones were split or crushed to extract marrow, a food rich in protein.

Material culture

The material culture of these groups which has survived in the soils consisted of terracotta containers, projectile points notched at the base (which mark the adoption of the bow and arrow and which stand out from the more points). squat used as spears), in small scrapers the size of a coin, in bifacial knives of various shapes, in chipped or polished stone adzes and in a lot of stone-cut waste whose sharp edges made it unparalleled disposable knives. Animal bones, teeth, and ivory provided an ideal raw material for making curved-blade knives (e.g. beaver teeth), detachable-headed harpoons, and needles or awls.

The St. Lawrence Valley

The Iroquoians

One of the most dynamic communities was certainly the Iroquois living in the St.Lawrence Valley, in the area of Lakes Erie and Ontario, in the Hudson River Valley and in the western part of the Appalachians (vast mountainous area of the eastern North America, almost parallel to the Atlantic coast, from the province of Quebec to northern Alabama. The Iroquois had at least six large communities: the Tuscarosas, the Senecas, the Cayugas, the Oneidas, the Onondagas and the Mohawks. All these peoples today left descendants in Canada and the United States. These Iroquoians spoke a different language from other Iroquoian groups encountered by Europeans elsewhere in the Northeastern United States, such as the Onondaga, Mohawks, Oneida and Hurons, for example. We do not yet know with certainty when they arrived in the St. Lawrence.

For some, their way of occupying and exploiting the territory and their ceramic and lithic technologies. s are noticeable from the 5th century AD. For others, this continuity is not sufficiently eloquent on archaeological sites and it is necessary to consider a real establishment of these populations only from the 14th century. The question still arises. As for the portion of the St. Lawrence Valley located downstream from Quebec, it is presumed that it was frequented by the Iroquois, the Huron-Wendat and the Mi'kmaq.

MICMAC

The largest and most important Indian tribe in the Maritime Provinces of Canada (Nova Scotia, New Brunswick and Prince Edward Island). The 2001 and 2006 Canadian censuses lead us to estimate the number of Mi'kmaq (or Mi'kmaq) at around 20,000 at the start of the 21st century. Their Algonkin dialect, still spoken by a third of them, is very different from that of their neighbors; this is why the Mi'kmaq are believed to have recently arrived in this region, a little before the time of the conquest. Historically, it is surely the Indians that Jean Cabot met in 1497. The first chroniclers described them as ferocious and belligerent; however, they were among the first to accept the teaching of the Jesuits and to marry the settlers of New France. In the 17th and 18th centuries, they were constantly allies of the French against the English and often organized raids on the borders of New England. The English did not succeed in pacifying them until 1779.

The Mi'kmaq formed a confederation of several clans (Mi'kmaq means "allies"). Each clan had its own symbols and its own leader, the importance of which, however, was not very great. In general, warlords were those who had accomplished exceptional feats. Apparently there were no hereditary social classes; slavery did not exist among them, because prisoners of war were generally tortured to death, and the women and children captives integrated into the tribe.

In certain seasons, the Mi'kmaq led a nomadic existence. In winter, they hunted caribou, elk and small game; they lived then in wigwams of conical shape, covered with skins or birch bark. In summer, they fished, collected shells and hunted seals on the coasts; they lived, during this season, in wigwams of oblong shape and very ventilated. They wore the clothes one finds among all the Indians of the forests of the Northeast: loincloths for the men, sheaths for the women and blankets for all; these clothes were very often frayed. The Mi'kmaq were very good at steering their canoes.

According to some accounts, their ceremonies were very complex, but little is known about the nature of their rites and religious beliefs. We only know that at the end of the seventeenth and eighteenth centuries the Mi'kmaq somewhat copied the Catholic missions and borrowed from them certain elements of their religious belief, when they did not convert. As among the Algonkin, Mi'kmaq legend relates the cult of the hero Gluskabe who accomplished many feats and, in particular, killed a frog monster which would have stopped the flow of water.

HURONS - WENDAT

The Huron-Wendat are a nation speaking the language of the Iroquois who settled in the St. Lawrence Valley and in the region where the St. Lawrence empties into the Great Lakes. "Huron" is a nickname the French give to the Wendat; it means "the head of a boar", reminiscent of the hairstyles of Huron men, or "a thug" or "a rascal" in old French. Their name in the Confederacy was Wendat (Ouendat), which probably meant "people who live on the back of a turtle". During the fur trade era, the Huron-Wendat allied with the French by opposing the Haudenosaunee (Iroquois). During the armed conflicts of the 17th century, the Huron-Wendat were dispersed by the Haudenosaunee in 1650. However, there are still representatives of the Huron-Wendat First Nation (settled in Wendake, Quebec).

Historically, the tribes forming this confederation are the Attignawantans ("Bear tribe"), the Attignaenongnehac ("Corde people"), the Arendaronons ("Rock people"), the Tahontaenrats ("Daim people") and the Ataronchronons ("people of the Marais"). These tribes are referred to as "nations", emphasizing the fact that they are distinct political and territorial entities with similar cultures, a common origin in the distant past, and speaking neighboring, but not identical, languages.

The Huron-Wendats are divided into 18 to 25 villages, some with 3,500 inhabitants. Their subsistence economy is based on growing corn, beans, squash and fishing. Hunting is a minor activity, except in the fall and late winter, and it is practiced well beyond the boundaries of Wendat lands. The larger villages are heavily fortified with palisades and usually located on slightly elevated locations, close to a permanent water source and good cultivable land. The Huron-Wendats move every 10 to 15 years, after the soil and firewood have run out.

Each Huron-Wendat belongs to one of the eight matrilineal clans. Members of the same clan consider themselves to be the descendants of a common legendary ancestor (bear, deer, turtle, beaver, wolf, common loon and sturgeon, hawk or fox), and do not have the right to marry each other. Some replace common loon and sturgeon and fox with porcupine and snake. A child cannot marry a member of his mother's clan, but he is allowed to marry a member of his father's clan. The strength of the clan system lies in the fact that members, regardless of the villages and nations in which they live, are obliged to help each other in times of need or of war.

The Iroquois Confederacy
was - and still is - a League of North American Indians originally made up of five nations: the Mohawks, Oneida, Onondaga, Cayuga and Seneca. When Europeans first arrived in North America, the Confederation was based in what is now the Northeastern United States, primarily in upstate New York, but also in New York. - England, Pennsylvania, Ontario and Quebec. A sixth tribe, the Tuscarora, joined North Carolina between 1720 and 1722 and settled between the Oneida and the Onondaga.

Iroquois is not the name these tribes use to refer to themselves. Instead, they use the term Kanonsionni, or nowadays more commonly Haudenosa unee (hoo-dee-noh-SHAW-nee). Haudenosaunee means "The people of the longhouse", or more precisely, "They are building a longhouse". the westerner.
The term Iroquois has three potential origins:
possibly a French version of irinakhoiw, which the French spelled with the suffix -ois. It is a Huron / Wyandot name - considered an insult - meaning "black snakes" or "real vipers".

The Iroquois were enemies of the Hurons and Algonquins, who allied with the French, because of their rivalry in the fur trade; the Haudenosaunee often ended their oratory with the phrase hiro koué; hiro translates to "I spoke", and koué is just an exclamation. Hiro koué to the French meeting the Haudenosaunee would sound like "Iroquois", pronounced / irokwe / in the French language of the time; another version, supported by French linguists like Henriette Walter and historians like Dean Snow, asserts that "Iroquois" derives from a Basque expression, Hilokoa, meaning the "killer people". This would have been applied to the Iroquois because they were the enemy of the local Algonquins, with whom the Basque fishermen traded. However, since there is no "L" in the Algonquian languages of the Gulf of St. Lawrence region, the name became Hirokoa, which is the name the French understood when the Algonquians referred to the same language. pidgin than the one they used with the Basques. The French then transliterated the word according to their own phonetic rules, thus providing "Iroquois".

The Haudenosaunee were probably the largest indigenous political regime north of the Rio Grande during the two centuries before Columbus and certainly the largest during the following two centuries. Members of this confederation spoke different languages of the same Iroquoian family, suggesting a common historical and cultural origin. Mohawk was the language usually used at the Grand Council and at Iroquois religious festivals. The Algonquian tribes surrounding the Iroquois Corridor are of a different cultural and linguistic background. Therefore, it seems likely that the Iroquois migrated to this region at some point. When, however, is unclear.

Language
The six Iroquoian languages are similar enough to allow easy conversation. Mohawk and Oneida are quite similar, as are Cayuga and Seneca; Onondaga and Tuscarora are each quite different from the other five. A common feature is the absence of lip sounds, such as / p /, / b / and / m /. Iroquois is rich in words for tangible things, but lacks abstract expressions. A 1901 treatise noted that "for varieties, sexes and ages of a single animal they would have a multitude of terms, but no general word for animal. Or they would have words for good man, good woman, good dog. , but no word for kindness "

Other tribes, such as the Hurons, who lived in Ontario and Quebec, and the Cherokee, whose historic homeland was in the Southeastern United States, are related to the tribes of the Iroquois Confederacy, speak related languages, but never didpart of the Iroquois Confederacy. In fact, they were regularly at war with the Iroquois. The Erie Iroquois lived in New York, Ohio, Pennsylvania, and Indiana. Their parents too, the Attawandaron (Neutrals), Honniasont (Black Minqua), Mingo, Susquehannock (Susquehanna or Conestoga), Tobacco, Wenro and Wyandot (te). These tribes did not join Confederation either. Ironically enough, aside from the Wyandot, all of these the tribes are gone today.

Message of peace

Despite their common culture and language, relations between the five tribes had deteriorated to an almost constant state of war in ancient times. The infighting made them vulnerable to attacks from surrounding Algonquian tribes. This period, known in Iroquois oral tradition as the "dark times," reached a low point during the reign of a psychotic Onondaga leader named Tadadaho (or Tododaho). Legend has it that he was a warrior chief who regarded peace as betrayal and was a cannibal who ate from bowls made from the skulls of his victims. It should be noted that in the past cannibalism was not a rare occurrence in this part of the world.

The Onondaga / Mohawk Ayonwentah and (possibly Huron) Deganawidah, the Great Peacemaker, brought a message of peace to the bickering tribes. Various traditions provide different accounts of his past, but most say Deganawidah was not a member of the Five Nations. He was a shamanic stranger, who had left his native village in a white stone canoe and wandered through the forests of Adirondack and Allegheny, then a place of constant violence and intermittent cannibalism.

Deganawidah had a message of peace, which he could not easily promulgate, as he had a severe speech impediment, possibly a stuttering. Somehow he connected with Ayonwentah, who was a famous speaker. Ayonwentah is also known as Ayenwatha, which is often, but incorrectly, considered to be Henry Wadsworth Longfellow's Hiawatha poem. Over the years, Deganawidah and Ayonwentha have persuaded the Seneca, Cayuga, Oneida, and Mohawk to form an alliance, instead of constantly fighting.

Tadadaho and his Onondaga, however, continued to refuse. In talks, Deganawidah took a single arrow and invited Tadadaho to break it, which he did easily. Then he gathered five arrows and asked Tadadaho to break the spell. He could not. Likewise, Deganawidah prophesied that the Five Nations, each weak in itself, would fall into darkness unless they all come together. Shortly after Deganawidah's warning, a solar eclipse occurred. The shaken Tadadaho agreed to add the Onondaga to the budding alliance. But he demanded that the main village of Onondaga, now buried under present-day Syracuse, New York, become the seat of Confederation.

Despite all the convulsions in history, the Onondaga have kept the Council's fire for the Haudenosaunee to this day. Tadadaho remained the title of the main speaker of the alliance, the fiftieth leader, who sits with the Onondaga in council, but is the only one of the fifty chosen by the whole of the Haudenosaunee people.

The Great Peace forged by Deganawidah and Ayonwentah produced an unwritten but clearly defined framework for the Iroquois Confederacy. A written constitution was not drawn up until 1850. The founders imagined that the resulting peace extended beyond the original members of the League, so that all people would eventually live in cooperation. Law and order remained the internal concern of each tribe, but the League legally prohibited cannibalism, a sign that cannibalism was still regularly practiced.

Location of the Iroquois tribes of yesterday and today

The Confederation

The Senecas were residents of the present-day states of New York, Ohio, Pennsylvania, Indiana, Wisconsin and Oklahoma, as well as the province of Ontario. Currently, they are only found in New York, Oklahoma and Ontario.

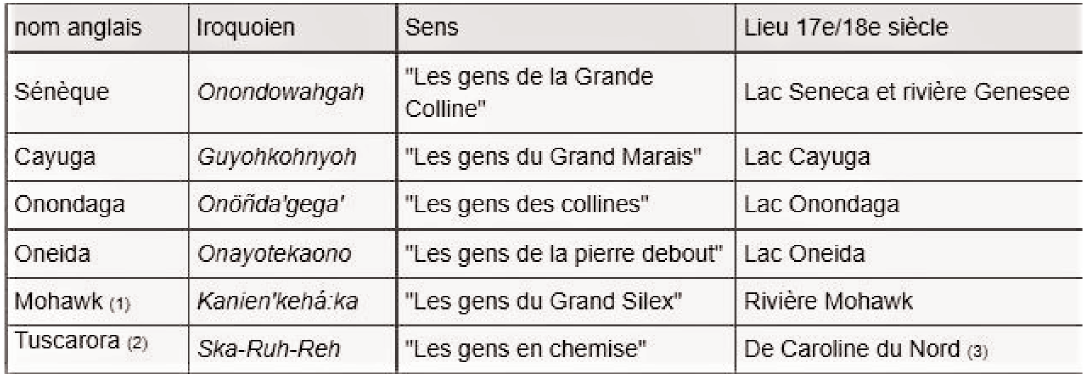
The Cayuga were based in New York State. These days, they live in New York, Oklahoma and Ontario.

The Onondaga were originally from New York and are now based in New York and Ontario.

The Oneida were based in New York and are now located in New York, Wisconsin and Ontario.

The Mohawks have largely remained in their homelands over the past several centuries: New York, Ontario and Quebec.

The Tuscarora could be found in North Carolina, Pennsylvania and New York. Currently, they are based in New York and Ontario



nom anglais	Iroquoien	Sens	Lieu 17e/18e siècle
Sénèque	*Onondowahgah*	"Les gens de la Grande Colline"	Lac Seneca et rivière Genesee
Cayuga	*Guyohkohnyoh*	"Les gens du Grand Marais"	Lac Cayuga
Onondaga	*Onõñda'gega'*	"Les gens des collines"	Lac Onondaga
Oneida	*Onayotekaono*	"Les gens de la pierre debout"	Lac Oneida
Mohawk (1)	*Kanien'kehá:ka*	"Les gens du Grand Silex"	Rivière Mohawk
Tuscarora (2)	*Ska-Ruh-Reh*	"Les gens en chemise"	De Caroline du Nord (3)

Non-Confederate Iroquois

Northern Group

The Attawandaron (Attiwendaronk or Neutrals) lived in Ontario, Michigan, Ohio, New York and Indiana. C alled Attawandaron by Huron, meaning "people of a slightly different language" and Neutrals by the French, as they tried to remain neutral between the Hurons and the belligerent Iroquois, their name was lost. They formed a confederation with their Iroquois parents the Aondironon, Ongniarahronon, Atiragenratka (Atiraguenrek) and Conkhandeenrhonon. These tribes are all extinct today.

The Erie (Cat People) lived in New York, Ohio, Pennsylvania, and Indiana. Extinct today.

The Honniasont (Black Minqua) inhabited Pennsylvania, West Virginia and Ohio. Extinct today.

The Hurons, now extinct, were based in the Canadian provinces of Ontario and Quebec. The Hurons were composed of the Attiguaouantan (people of bears), of Attigneenongnahac (people of the Rope), of Arendahronon (people of the Rocks), of Tohontaenrat (Atahontaenrat or Tohontaenrat, White ears or Deer), Wenrohronon (Wenro), of the Ataronchronon, and the Atonthrataronon.

The Mingo were based south of Lake Erie on the Allegheny River between Fort Venango and Fort Pitt and lived west of Delaware (or Lenni Lenapi). Extinct today.

The Tobacco (also Petun and Tionontati) lived in Ontario and Wisconson. Descendants can be found among the Wyandots.

The Susquehannocks (Susquehanna or Conestoga) lived further west south of Lake Erie and were originally based in Pennsylvania, New York, and Maryland, east of their Mingo connections, and south of Seneca. Extinct today.

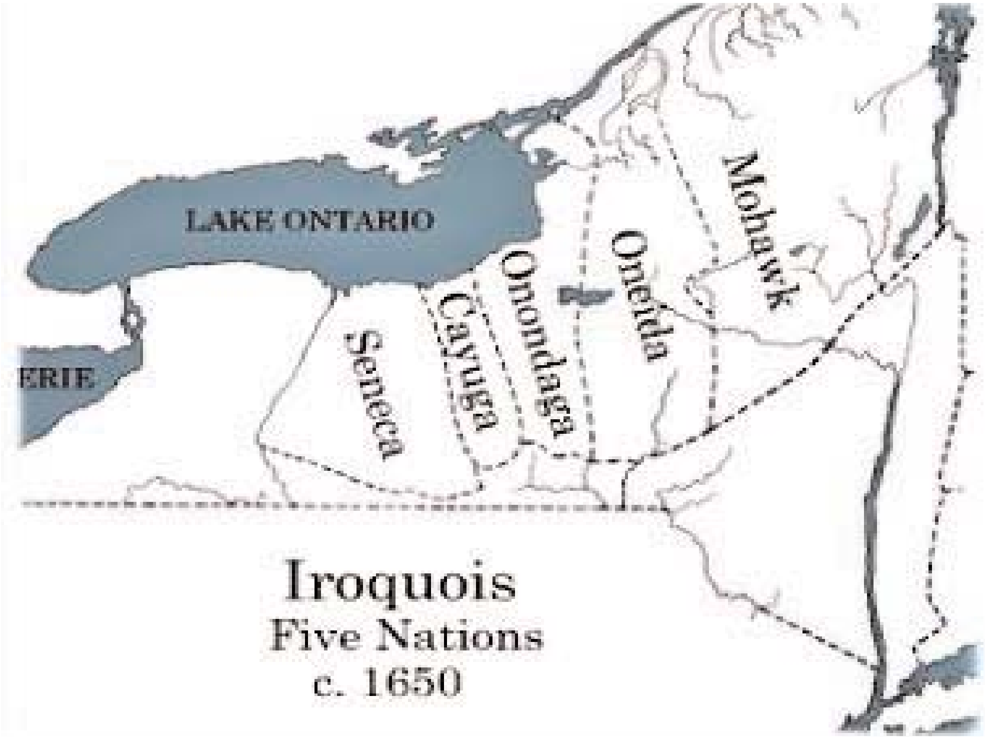
Wyandot (te) (Wendat): Before the arrival of the Europeans, the Confederation drove the Wyandots (descendants of the Hurons) from their native lands of Ontario and Quebec. They moved to Ohio, Illinois, Indiana, Kansas, Michigan, Minnesota, and Wisconson. Nowadays, they can only be found in Oklahama and Kansas.

South group

The Cherokee were made up of at least three divisions, the Elati, Middle Cherokee, and Atali, which once held the entire mountainous region of the Southern Alleghenies, southwestern Virginia, western North Carolina. and South Carolina, north Georgia, east Tennessee, northeast Alabama, Arkansas, Kansas and Oklahoma. Currently, the Cherokee are only based in Oklahama and North Carolina.

The Corree, residents of North Carolina, are also believed to have belonged to the Iroquoian family. They are extinct today.
The Meherrin occupied Virginia and North Carolina. Extinct today.
The Nottaways lived in Virginia. Extinct today.

Today, the total number of Iroquois is difficult to establish. Approximately 45,000 Iroquois were officially counted in Canada in 1995. In the 2000 census, 80,822 people in the United States claimed Iroquois ethnicity, including 45,217 claiming to be of only Iroquois origin. However, tribal registrations in the United States in 1995 were around 30,000 in total.



Characteristics of the Confederation
Most anthropologists have traditionally assumed that Confederation was created between the mid-1400s and early 1600s. However, recent archaeological studies have suggested the accuracy of the account found in oral tradition, which argues that the federation was formed either in 1090 or, more precisely, on August 31, 1142, based on a coincident solar eclipse. The Haudenosaunee would thus have the second oldest known representative parliament on earth. Only the Icelandic Althing, founded in 930 AD, is older.

Constitution
The union of nations created a constitution known as Gayanashagowa (or "Great Law of Peace"), established by Deganawidah. The Haudenosaunee (commonly known as the Iroquois) trace the birth of the Five Nations League to the "Legend of the White Roots of Peace," the epic of their league's founders, Hiawatha and Deganawidah.

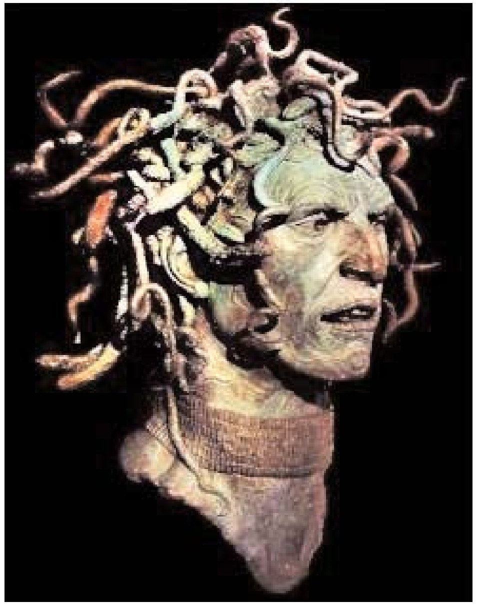
Deganawidah is the cultural hero who holds the vision of a new world ruled by higher ideals, overcoming war, cannibalism and decadent magical practices through the triple message of righteousness, health and power.

Of Hiawatha, many versions of the legend say he is a revered leader, but also a cannibal. Hiawatha is the quintessential human being who struggles between his higher ideals and his lower nature.

Chief Hiawatha was undeniably one of the famous Iroquois chiefs. In fact, history claims he was the major bonding particle of the Iroquois Confederacy. His power was the one that formed the 5 tribes with the Confederation. His Confederate rule was the foundation of peace and democracy, although it did not really last. This is usually the case with a different government. These 5 tribes are the Onondaga, the Mohawk, the Oneida, the Cayuga and the Seneca. Together, they were greeted by the League of 5 Nations.
The creation of the Iroquois Confederacy is also the fruit of the meeting of Chief Hiawatha and Deganawida. Deganawida was a chief of the Mohawk tribe. During his reign he withdrew from the idea of exercising violence against neighboring tribes.

Unfortunately the violence is at the heart of the Mohawk tribe during this time. He has tried to appeal to the council regarding their manners, but the latter is not open to the suggestion of deterring aggression from their people. With that, Deganawida left. He went west, and there he met Chief Hiawatha by the lake. Upon meeting, Deganawida marveled at Chief Hiawatha's wisdom, causing him to decide to bring him into his tribe. Hiawatha's philosophical position was ultimately well accepted by the Mohawk tribe. The story of Chief Hiawatha Iroquois shows how one can be embraced by different tribes by wisdom alone. The main objective of the confederation was to install unification between the different tribes in order to reduce inter-tribal wars which result in more deaths than necessary. Due to the insistence of both, there was the formation of the "Great Law of Peace". This solidified Chief Hiawatha's position as a famous Iroquois.

The joint efforts of Deganawidah and Hiawatha bring about the conversion and redemption of Atotarho, whose hair is a mass of tangled snakes, whose mind is twisted, and whose body is twisted. His cry "Hwe-do-ne-ee-eh?" Is "the mocking cry of the skeptic who has killed men by destroying their faith". He is the one who reigns as a tyrant over the five nations. Above all, he is a decadent magician.
There are different versions of the story, but most seem to agree that Adodarho (or Atatarho) had a head full of snakes, a sign of confused thinking. Another salient feature of the story and of Adodarho is that he had a seven foot penile injury around his waist. This was unrelated to sex (according to scholar Barbara Alice Mann) but indicated "seriously bad medicine"



As they did not have a writing system, the Iroquois depended on the spoken word to convey their history, traditions and rituals. As a memory aid, they used seashells and shell beads. Europeans called wampum beads wampumpeag, a word used by the Indians in the area who spoke Algonquian languages. The wampum is made from the channeled North Atlantic whelk (busycotypus canaliculatus) or from purple and white pearls, made from the shell of the clam (mercenaria mercenaria), obtained through trade or as payment for tribute from coastal tribes. These beads were arranged on sashes in patterns depicting important events. Some elders were assigned to memorize the various events and treaty articles depicted on the belts. These men could "read" the belts and reproduce their content with great precision. The belts were stored in Onondaga, the capital of the Confederacy, under the care of a designated wampum keeper.
Wampum belts also served as symbols of authority or contract. Patterns or figures woven into wampum belts recorded the terms of the treaties; duplicate belts were given to each of the contracting parties. Due to its important uses, wampum has becomecommodity precious and was sometimes used as a form of currency in commerce.

The 117 codicils of the Great Law were intended as much to set the limits of the powers of the Grand Council as to grant them. Its jurisdiction was strictly limited to relations between nations and outside groups. Internal affairs were the responsibility of individual nations.

According to the Great Law of Peace, when the council of the sachems decided "on a particularly important or urgent matter", its members were to "submit the matter to the decision of their people" in a kind of referendum.

DĀ-AH-DE-A
A SENECA IN THE COSTUME OF THE IROQUOIS.

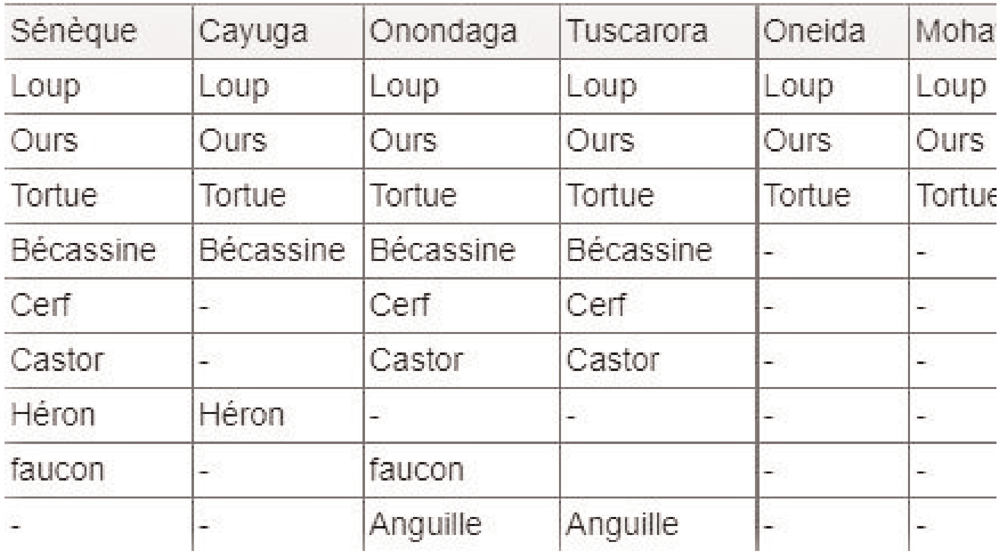
Great Council
Gender equality had a strong membership in the Confederation, and the women, who held title to the land and all of its products, also held real power and could vote against the decisions of the male leaders of the League and demand that a question be reconsidered. , in particular to approve or veto declarations of war. The Grand Council of Chiefs was chosen by the Mothers of the Clan and if a chief did not comply with the Great Law of Peace, he could be removed by the Mothers of the Clan.

Originally, the main object of the Council was to raise sachems to fill vacancies in the ranks of the ruling body occasioned by death or deposition; but he dealt with all other matters which concerned the common good. Eventually the council fell into three kinds, which can be distinguished as civil, mourning and religious. The former declared war and made peace, sent and received embassies, concluded treaties with foreign tribes, settled the affairs of subjugated tribes, and other matters of general welfare. The second raised sachems and invested them ex officio, called the Council of Mourning (Henundonuhseh) because the first of its ceremonies was the lament of the deceased sovereign whose vacant place was to be filled. The third was held for the observance of a general religious holiday, as an occasion for the confederate tribes to unite under the auspices of a general council in the observance of common religious rites.

The Grand Council is the oldest government institution in its original form in North America, with each tribe sending sachems to act as representatives and make decisions for the entire nation. Different nations had different numbers of sachems, but inequality meant little, as all decisions had to be unanimous. The number of sachems has never changed.

14	Onondaga
10	Cayuga
9	Oneida
9	Mohawk
8	Seneca
0	Tuscarora

The Tuscarora have never had a seat on the Council. Having sought the protection of the Confederacy by leaving North Carolina to escape the British in 1720-22, their status is different from that of the original 5 tribes.



Sénèque	Cayuga	Onondaga	Tuscarora	Oneida	Moha
Loup	Loup	Loup	Loup	Loup	Loup
Ours	Ours	Ours	Ours	Ours	Ours
Tortue	Tortue	Tortue	Tortue	Tortue	Tortue
Bécassine	Bécassine	Bécassine	Bécassine	-	-
Cerf	-	Cerf	Cerf	-	-
Castor	-	Castor	Castor	-	-
Héron	Héron	-	-	-	-
faucon	-	faucon		-	-
-	-	Anguille	Anguille	-	-

As a rule, the sachems were replaced by their nephews, but the system was not entirely hereditary. Sachems could be charged if they displeased their clan, and if their nephews were not deemed fit for a position, someone from outside the family could take over.

Clans, marriage and childhood

The number of clans varies among nations, currently three to eight, with a total of nine different clan names. Originally, the Iroquois tribes were organized into eight clans, grouped into two halves: Wolf, Bear, Beaver and Turtle; and Deer, Snipe, Heron and Hawk. In ancient times, mixed marriages were not allowed within each group of four clans, but due to the large reduction in the population, mixed marriages were ultimately only prohibited within each clan.

Tribal affiliation did not affect clan membership; for example, all members of the Wolf clan were considered blood relatives, whether they were members of the Mohawk, Seneca, or other Iroquois tribes. At birth, each became a member of his mother's clan.

Within a tribe, each clan was led by the mother of the clan, who was usually the oldest woman in the group. In consultation with the other women, the mother of the clan chose one or more men to serve as chieftains. Each chief was appointed for life, but the clan mother and her advisers could dismiss him for misconduct or dereliction of duty.

Women arranged marriages, usually choosing a young man for an older, often widowed woman, and conversely an older man for a younger girl. The system had the great advantage of providing young people with an experienced marriage partner and avoiding the risk of two young people wallowing in the mysteries of sex and marriage to jeopardize the relationship. In addition, the bride was assured of the safety of an experienced hunter and a successful warrior with status and position. The newlywed, on the other hand, had the advantage of a wealthy partner, who owned fields of corn, beans, and squash, and was well versed in parenting and housekeeping.

Children were valued among the Iroquois; due to the matrilineal society, daughters were somewhat more prized than sons. The birth of a couple's first child was greeted with a feast in the mother's family home. The couple stayed there for a few days, then returned home to prepare another feast.

Mothers had the primary responsibility for raising their children and teaching them good behavior. In keeping with the laid back nature of Haudenosaunee society, children learned informally from their families and elders in their clan. Children were not spanked, but could be punished by splashing water on their faces. Difficult children might be frightened and behave better by a visit from someone wearing the mask of Longnose, the cannibal clown.

Babies were named at birth; when the child reached puberty, an adult name was given. Names that refer to natural phenomena (such as the moon or thunder), features of the landscape, occupations, and social or ceremonial roles; animal names were very rare. Here are some examples of the meanings of the names: In the center of the sky, Hanging flower, He bears news and Loud speaker. A person was never called by name during the conversation; when talking about a person, especially a relative, the name was only used if it could not otherwise be clearly identified by the terms of the relationship or the context of the discussion.

Puberty marked the moment of acceptance of adult membership in society.

On the occasion of her first period, a girl retired to an isolated hut for the duration of her period. She had to do difficult tasks, such as chopping hard wood with a dull ax, and was prohibited from eating certain foods. The initiation period for a young man was longer; when his voice started to change, he went to live in an isolated cabin in the forest for up to a year. An old man or woman has taken responsibility for their well-being. He ate little and his time was spent in physically demanding activities such as running, swimming, bathing in ice water, and scratching his shins with a stone. His quest came to an end when he received a visit from his spirit, which will remain with him throughout his adult life.

Housing and establishments

Villages of 300 to 600 people were protected by a triple-walled palisade of wooden stakes 15 to 20 feet high. These palisades were often equipped with shelves to hold stones to throw at the enemy and buckets of water to put out fires. The Iroquois preferred to build their villages on a hill for protection. The locations near fresh water sources or a river to facilitate transport have been favored. A village would have 20 to 100 longhouses. The longhouses were built in random patterns to prevent the easy spread of fire. Crops were planted in large fields outside the fence, and about every 20 to 30 years, nearby game and firewood supplies would run out and the cultivated soil would run out. Over a period of about two years, the men would find and clear an alternative site for the village, which would then be completely rebuilt.

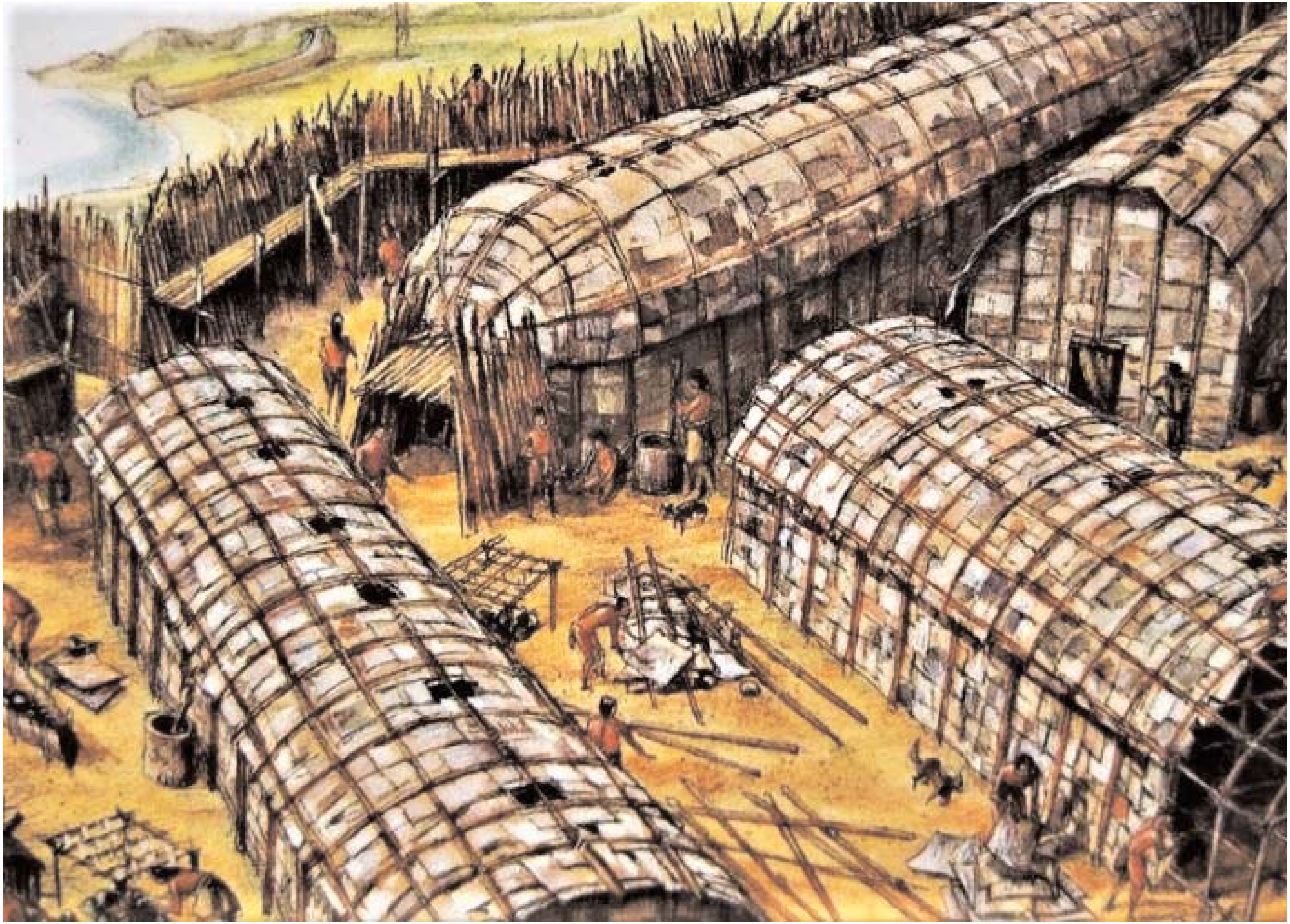
Traditional longhouses housed about 60 people and were sometimes over 100 feet long, 15 to 20 feet wide, gabled or vaulted, with a door and vestibule at each end. They consisted of a log frame with a variety of coverings, often elm bark. Each longhouse housed an entire clan, or up to 60 people. Later Iroquois longhouses could house several hundred people and were up to 300 feet long.In the body of the house, a central corridor eight feet wide separated two rows of compartments. Each compartment, measuring approximately 13 feet by six feet, was occupied by a nuclear family. A wooden platform about a foot above the ground served as a bed at night and a chair by day; some compartments included small bunk beds for children. A hanging shelf contained personal effects. Every 20 feet along the central hallway, a foyer served the two families living on its opposite sides. Bark or skin doors at the ends of the buildings were attached to the top; these openings and the smoke holes in the roof 15 to 20 feet above each fireplace provided the only ventilation.Neighboring Algonquians generally lived in wigwams (huts with an arched frame of poles covered with bark, animal skin, or woven mats).

Food

The Iroquois were a mixture of farmers, fishermen, gatherers, and hunters, although their staple food came from agriculture. The main crops they cultivated were corn, beans and squash, called "the three sisters" and which were considered special gifts from the Creator. These crops have been cultivated strategically. The corn stalks grew, the bean plants climbed the stalks, and the squash grew underneath, keeping the weeds away. In this combination, the soil remained fertile for several decades. Food was stored over the winter and lasted two to three years. In addition to providing food, the corn plants were used to make a variety of other products.

From the stems, tubes were made containing medicine, corn syrup, war sticks and toy spears, and straws to teach children to count. Corn husks were made into lamps, kindling, mattresses, clotheslines, baskets, shoes and dolls. Animal skins were smoked over fires of corn on the cob. Besides the corn, beans, and squash they grew with it, the Iroquois ate a wide variety of other plant foods.

A traveler in 1669 reported that six square miles of corn generally encircled Haudenosaunee villages. This estimate was roughly corroborated two decades later by the Marquis de Denonville, governor of New France, who destroyed the harvest of four adjacent Haudenosaunee villages to deter future attacks. Denonville reported that he destroyed 1.2 million bushels of corn - 42,000 tonnes. Today, farmers in Oaxaca, Mexico typically plant around 1.25-2.5 acres to harvest a ton of locally bred corn. If this relationship were true for upstate New York - a big, but not ridiculous assumption - four villages, tightly packed together, would be surrounded by 8 to 16 square miles of cornfields.



SOCIAL ORGANIZATION

THE ROLE OF THE CHEFS

The organization of power among the peoples of the Northeast varied from one society to another. But each group, band or clan gave itself a leader. The latter, whether civilian or military leader, had to rely on decisions taken by the council after long discussions. Discussions were aimed at rallying as many people as possible. It was therefore necessary to allow a certain period of time for the general opinion to agree.

The qualities required to become a leader were: strength, skill, courage, wisdom as well as generosity. To these essential characteristics were added other personal qualities such as being a good speaker or a great shaman. The leader did not wear outward signs of superiority. He was distinguished from others only by his worth and the respect he was given. His influence was based on his personal qualities and his power of persuasion which was linked to his oratory skills, his eloquence, that is to say his talent to speak well, to move and to convince by his speech. His authority remained limited and gave him no power of constraint or any right to use force.

THE CIVIL CHIEF AND THE MILITARY CHIEF

The Huron-Wendats and the Iroquois recognized two kinds of leaders: the civilian leader and the military leader. The civil chief was responsible for the internal affairs of the clan, including the organization of festivals and games. They also took care of relations with other clans. The civil leader was elected according to his clan lineage. Parentage was often hereditary by women, but the merit of the individual also mattered. All the clan chiefs were part of the village council which met frequently to deal with community affairs. The chiefs of all the villages gathered to form the council of the nation. The councils of nations formed an even larger grouping, the federation.

The other chief was in charge of the activities surrounding the war. He was chosen taking into account his personal qualities, although lineage could be taken into account. The military leaders regrouped in the same way as the civilian leaders, in village councils, nation councils, then within the federation.

DEKANAHOUIDEH

According to an Iroquois tradition, the Iroquois League (Ho-de'no-sau-nee) was created in the second half of the 15th century. Its birth is associated with an eclipse of the sun which would have occurred in Iroquoisie in 1451. The growth of the population, the trade and the war would have caused the creation of this federation under the leadership of the legendary hero, Dekanahouideh, the "Heavenly Messenger". After losing his family in an intertribal conflict, Hiaouatha would have rallied to this peace project between all the Iroquois nations. The symbol of the Ho-de'no-sau-nee League is the tree of peace, the white pine.

THE SHAMAN

The shaman was a respected individual in indigenous societies since he was able to heal, break spells, but also bewitch. He did not, however, have the exclusivity of the supernatural universe. Each remained autonomous in his relations with the spirits and each could communicate with them. Different means of coming into contact with the supernatural,

such as fasting, seeing, dancing and dreaming, were accessible to the shaman, but also to other individuals.

This male doctor, often a woman, was recognized as the specialist in the supernatural universe. He served as an intermediary between spirits and humans. He was called arendiouane, "one whose spiritual power is great" or oki, "powerful spirit" among the Huron-Wendat. The shaman could prevent disease, diagnose evil and suggest the appropriate remedy since he was very familiar with medicinal plants. He was also very good at interpreting dreams.

This function was not necessarily hereditary. It required exceptional personal qualities and a long apprenticeship. The shaman possessed special talents, including the ability to enter into this function was not necessarily hereditary. It required exceptional personal qualities and a long apprenticeship. The shaman possessed special talents, including the ability to enter into contact with spirits and make predictions. He got his powers from the strength of a particular oki (spirit) and his practice of fasting.

Some shamans specialized in finding lost property, missing persons and predicting where game might be found. To get there, they performed the shaking tent ceremony. The shaman entered a small hut where he sang and sent spirits in search of what he wanted to find. Iroquoian shamans, men or women, often grouped together in medical societies.

IROQUOIAN WOMEN

Women were at the base of the Iroquoian social organization. They gave the clan identity to the children. Each individual at the time of birth became a member of his mother's clan. In Iroquoian mythology, a woman named Aataentsic is the origin of humanity. She is considered the mother of human beings.

Kinship relations were the basis of the social and political organization of Iroquoian societies. Their kinship system was based on maternal descent. It is for this reason that these societies are qualified as matriarchal or matrilocal. In fact, lineage was defined by women. A community dwelling, the longhouse, brought together members of the same lineage, that is to say individuals related to each other on the side of women, those descended from the same mother or the same grandmother. .

Women held great influence in Iroquoian societies. They regulated day-to-day affairs by taking part in major decisions such as waging war or moving the village. It was the women who owned the fields and the houses and who negotiated the marriages. In addition to being the guardians of tradition, women had an important political role. Those called clan mothers (the older and more experienced women) chose the men who formed the government. Women chose the leader for their clan and when the latter did not perform well, they could try to remove him. Women did not sit on the councils, but they could give speeches there.

The women, who had to take care of the fields, were more sedentary than the men. Like agriculture, the gathering of fruits, roots and medicinal plants was reserved for them. Other female tasks included preparing meals, collecting firewood and fishing. They prepared animal skins and made clothes, made various objects made of bark, corn leaves, rush or terracotta. The women sewed the bark of the canoe and wove the inside of the snowshoes.

CLAN MOTHERS

"Mother Earth sent a call to all who were a part of Creation. This call was heard by those who listened with their hearts." I am giving birth to a Legacy that will bring forth the best in everyone in the humanity, "she cried." The beauty of the feminine aspect will never again be hidden from those who seek the light of Grandmother Moon or who rely on my gift fortake care of them and receive the strength that will guide them on the path.

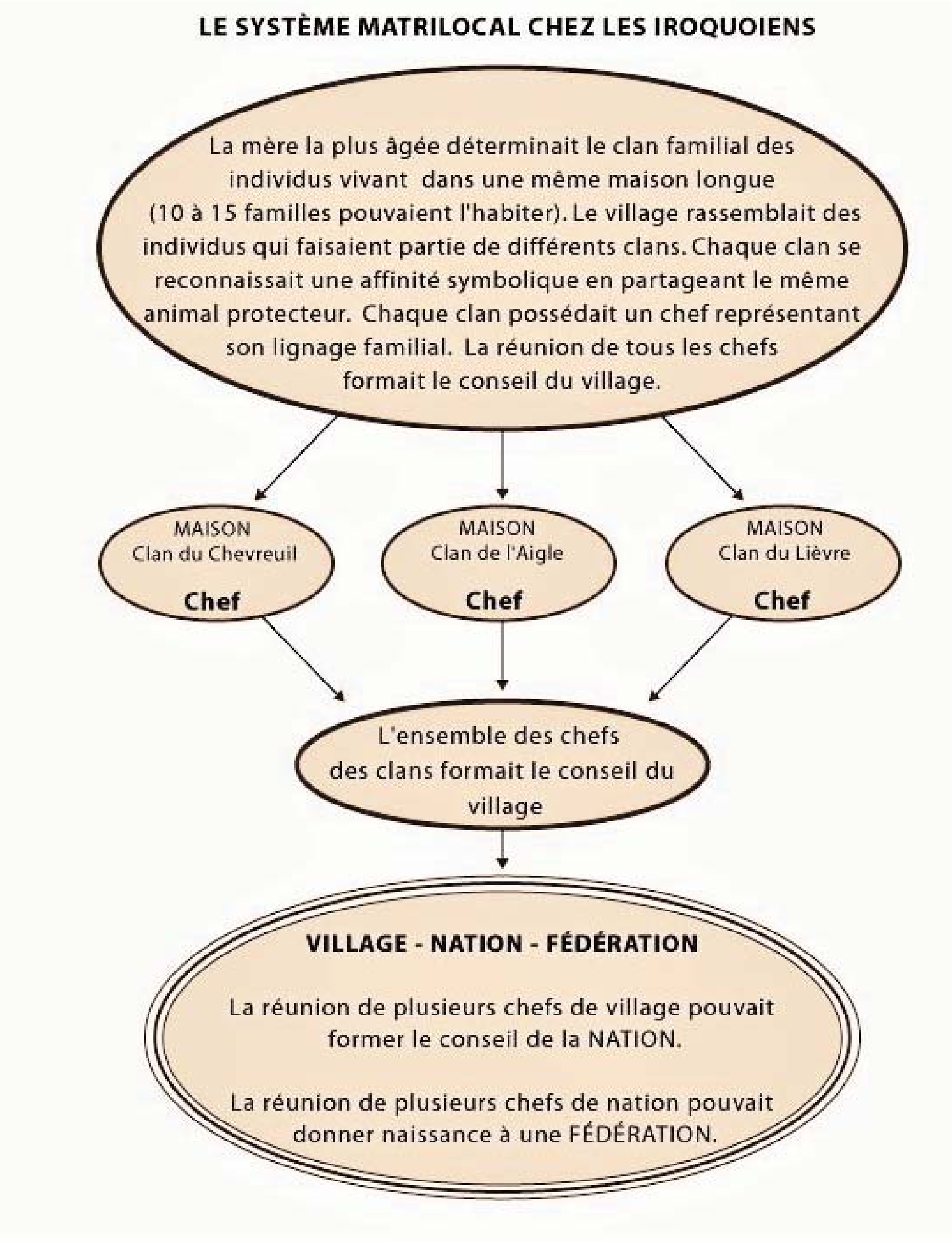
I will bequeath to all the women of the Earth the Medicine they need to give birth to their children as well as the collective dreams. So, with them, I will reverse the patterns of fear that have hurt the hearts of all my children. My promise to the People of Plants, to that of Stones, to the People of those who have Wings, Fins, Four Legs and to the people of those who Crawl on the earth is that my compassion and my love will be present in the Two Legs named Yeo, the wife. It may take time and require the help of Her loved ones in the Planetary Family, but the woman will find her way, restoring in every living thing the love that was lost in the upheaval of the First World. "And it was thus that the dream visions of the Thirteen Original Mothers of Original Clan took flesh and came to nestle in the heart of Mother Earth, deeply buried in her Inner Earth."

*"As the voice of her Orenda * faded, the Listening Woman heard the faint whispers of the breeze which rushed up, scaled the ridges of the Sacred Mountain and circled around Mother Earth; the voices of the Ancestors rode Winds of Change, whispering to all who could hear them:*

*"Now is the time for the White Bison to return. It is time to let go of your fears and join us in the quest for wholeness and unity. Children, call this Grandmother who can teach you the harmony of inner peace in your hearts. The Listening Woman hears your calls and stands ready to show you how to find the way. Listen to the sweet sound of the footsteps of your Ancestors through the pounding of the White Ox's hooves, and know (what East). Know that every night we light the fires of return across the immense expanse of the Nation of Heaven. We wait in Tiyoweh **. We bring to you the whisperings of the old days to point out to you the Harmony track that takes you back to the home of your heart. "*

The Listening Woman sat down in Stillness and listened. The voices that rose calling her name came to her without surprise. The time for humans to listen and achieve spiritual unity, letting go of separation and limitation, had finally arrived. "

From the story of the House of the Turtle Council, The Original 13 Mothers, Jamie Sams



LE SYSTÈME MATRILOCAL CHEZ LES IROQUOIENS

La mère la plus âgée déterminait le clan familial des individus vivant dans une même maison longue (10 à 15 familles pouvaient l'habiter). Le village rassemblait des individus qui faisaient partie de différents clans. Chaque clan se reconnaissait une affinité symbolique en partageant le même animal protecteur. Chaque clan possédait un chef représentant son lignage familial. La réunion de tous les chefs formait le conseil du village.

MAISON
Clan du Chevreuil
Chef

MAISON
Clan de l'Aigle
Chef

MAISON
Clan du Lièvre
Chef

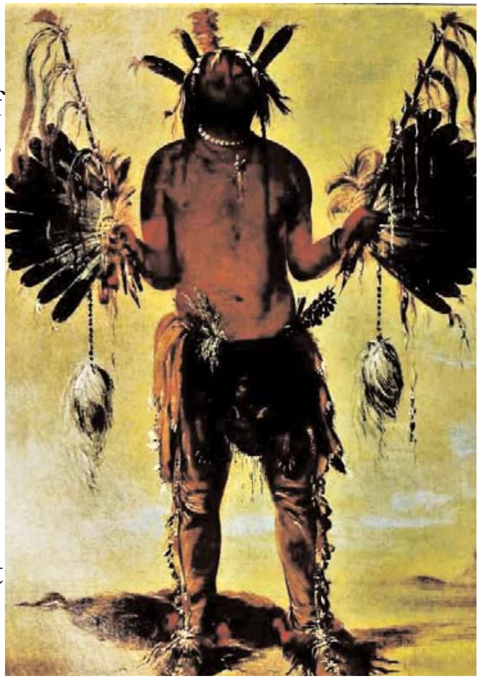
L'ensemble des chefs des clans formait le conseil du village

VILLAGE - NATION - FÉDÉRATION

La réunion de plusieurs chefs de village pouvait former le conseil de la NATION.

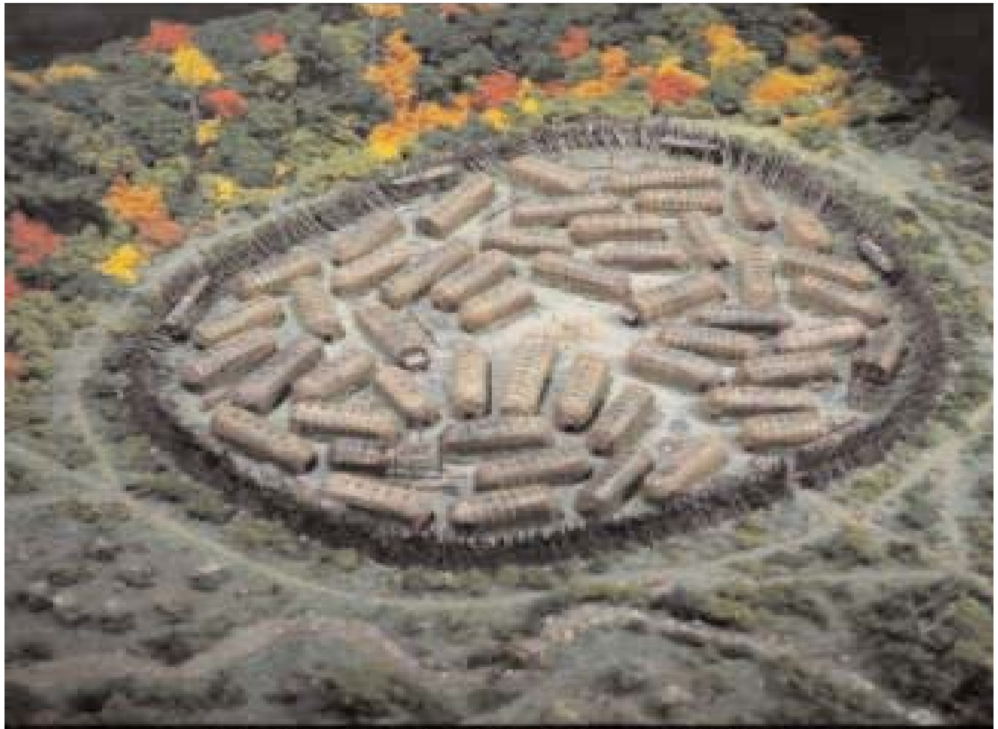
La réunion de plusieurs chefs de nation pouvait donner naissance à une FÉDÉRATION.

MOHAWK



A North American Indian tribe belonging to the linguistic family of the Iroquois and originating in present-day New York State, the Mohawk, like other Iroquois tribes, led a semi-sedentary life. The women tended to the cultivation of corn, while the men went hunting in the fall and winter, and fishing in the summer. Several allied families lived together in "longhouses", a symbol of Iroquois society. If traditional accounts are to be believed, it was the Mohawk chief Hiawatha who first accepted the ideas of peace from the prophet Dekanawida, founder of the League of Iroquois (1450). The Mohawks had nine representatives in the league. Each Mohawk community also had a local council which guided the village chief (s). They were divided into three clans: the bear, the wolf and the turtle.

The Mohawks often fought against their neighbors, the Algonquins. When the Dutch introduced firearms as a payment method for beaver pelts, Mohawk victories increased. However, contact with Europeans caused a rapid decline in the population. Most of the Mohawks sided with the English in the war against the French and the Indians. But some of them who were converted to the Catholic religion (the devout Indians of Quebec), and who were installed in missions along the St. Lawrence and especially in Caughnawaga, espoused the cause of the French. They even served as guides in expeditions against their former allies in the League of Iroquois. Later, during the War of Independence, the Mohawks took, under the influence of their leader Joseph Brant, whom they would later follow in Canada, the party of the English.



Hochelaga (Québec), ?-1540 CE

Tionondogen (New York), 1666-1693 CE

t**NITASSINAN**

Innu name designating the ancestral territory inhabited by the Innu and Naskapi communities. This immense territory covers all of Labrador, the Upper North Shore, the Saguenay and the entire coastline of the river between the community of Essipit (Les Escoumins) and that of Pakuashipi (Saint-Augustin).

The conflicts, which divided the Iroquoians of the St. Lawrence and their neighbors during the last centuries of the Forestry, would have played a fundamental role. The void left by the dispersal of Iroquoian horticulturalists from the St. Lawrence was filled by Algonquian, Innu and Algonquin hunter-gatherers. They are the ones that Champlain met throughout the Laurentian territory: Le Nitassinan

From the start, two distinct groups have occupied the Nitassinan territory: they are the Montagnais (Innu) of the forest and the Montagnais (Innu) of the sea. In reality, all frequent both the forest and the river, but in opposite proportions. . The Montagnais de la Mer stay on the coast from September to April and hunt seals in ice-free bays. At any time, they can exchange hides and oil for food in the trading posts. Sometimes, in the case of an unsuccessful hunt, they fall back on winter hunting for big game in the forest. Whether housing, methods of transport, tools, traps, everything was adapted to the nomadic culture of the Amerindians. We can hardly imagine all the logistics necessary for nomadic travel, they are real artists of transport adapted to the environment. In short, voluntary simplicity has existed for a long time; well before presently modern philosophy. Before their complete sedentarization, the annual cycle of the Montagnais nomads of the forest was marked by seven major displacements:

1) The ascent inland to the Churchill River was from mid-August until the end of September. Families camp on sites they are used to occupying. The branches of the river mark the division of travelers into small groups, generally by families, and constitute the ancestral hunting territory which is allotted to them. Small game, fish and big game are captured and are mainly the subject of reserves left in caches for the seasons to come.

2) The fall hunting is done from a base camp where the trapping lines are installed after a reconnaissance tour of the territory.

3) The descent towards the coast takes place around mid-December for some families, others preferring to stay inland. With the arrival of Europeans, in fact, families decided to quickly return to the trading posts to exchange furs for food before the cold winter.

4) Winter hunting is done from a base camp well sheltered from the winds and where firewood is abundant. In January and February, the men leave the trap to concentrate on hunting big game, then slowed down by the blanket of snow. In mid-February, the trapping of fur animals resumed more intensively.

5) The winter-spring hunt marks the beginning of the return to the coast where families stop for about a week at different hunting camps different from those of the fall hunt.

6) Spring hunting takes place within 40 km of the coast from mid-May to mid-June. It's time to catch waterfowl and eggs, freshwater fish, porcupine, and bear.

7) Summer activities take place on the coast between mid-June and mid-August. We take advantage of this period to build new canoes, repair traps, hunt seals and fish for salmon. It is the time for marriages and alliances between different communities.

COMMENSALISM

The circulation of food and clothing is a very distinctive feature of the pre-conctact Inuit social organization. Called commensalism, this organizing principle based on sharing food between hunters first, extended kinship second, and finally community donation at feast has prevailed for centuries throughout the Arctic. Even today, commensalism works adequately since game meat still does not have the status of a commodity. Indeed, 85% of local food (caribou, seal, fish, birds, plants) is transmitted through extended kinship networks, 13% is redistributed to the community via municipal freezers and only 2% is sold mainly to the cooperative. to foreigners

INNU (les) (Real humans)
Hello, says "KUEI-KUEI" in the Innu language.
Regrouping of Innu and Naskapis therefore of the following tribes: Betsiamites, Papinachois, Ouchestigouek, Ounescapis, Oumamiois. Geographically, the Betsiamites live on the basin of the Betsiamites river, the Papinachois on the basins of the Outardes and Manicouagan rivers, the Ouchestigouek and Ounescapis on the interior basins of Ungava and Labrador, the Oumamiois on the basins of the river Moisie, La Romaine, Natashquan, Olomane and Petit-Mécatina. The Naskapis refer to all the Amerindian tribes of the interior of the Upper North Shore of Quebec as opposed to the Amerindians of the north shore of the St. Lawrence referred to by the Montagnais. This designation (Montagnais) is attributed to Champlain who might hold it from the Basques, among the first Europeans to have interacted with the local populations, who identified three indigenous groups: the "Esquimaos" (Inuit), the "Montaneses" (Montagnais) and the "Canaleses" (Iroquois). From Champlain, the Montagnais designate all the tribes living on the coast between Quebec-Tadoussac-Sept-Îles-St-Augustin. Until the 20th century, with the exception of a few non-Native coastal villages, the Innu were practically the only inhabitants of the north coast of the St. Lawrence. In the beginning, they lived by hunting, fishing and gathering in this immense territory which extended up to 600 kilometers inland. Then, in the 18th century, following the establishment of trading posts, the Innu oriented their activities towards trapping furbearing animals. The arrival of mining and forestry industries and the construction of hydroelectric dams accelerated their sedentarization and led to the creation of the current nine villages. Numbering 14,300, the Innu represent the most populous Amerindian nation in Quebec and 70% of them live on the reserves of the North Shore.

The Innu communities are: Essipit - shell river (Les Escoumins), Pessamit - where the lamprey is found (Betsiamites), Kawawachikamach - meandering river (Schefferville), Matimekosh - small river or small fish (Schefferville), Uashat - Maliotenam - the bay, village of Marie (Sept-Îles), Ekuanitshit - where something is stranded (Mingan), Nutukuan - where the bear is hunted (Natashquan), Unamen Shipu - river of color (La Romaine), Pakua Shipi - dry river (Saint-Augustin), Mashteuiatsh - where there is a point (Pointe-Bleue). The latter, located in Lac-St-Jean, is the only Innu community outside the North Shore. In Labrador, there are two other communities, Sheshatshiu (Goose Bay) and Utshimassiu (Davis Inlet). The only Aboriginal institutions recognized by the federal government until 1960 are the Band Councils, elected every two years and endowed with very limited powers. In November 1975, 11 Amerindian bands came together to form the first permanent organization, the Attikamek-Montagnais Council, which prepared the files of land claims, which are still relevant today. Dissolved in 1994, this Council was replaced by the Attikamek National Council, the Manuitum Tribal Council and the Mamit Innuat Tribal Council.

NASKAPIS (the)
The Naskapis refer to all the Amerindian tribes of the interior of the Upper North Shore of Quebec as opposed to the Amerindians of the north shore of the St. Lawrence referred to by the Montagnais. This designation (Montagnais) is attributed to Champlain who might hold it from the Basques, among the first Europeans to have interacted with the local populations, who identified three indigenous groups: the "Esquimaos" (Inuit), the "Montaneses" (Montagnais) and the "Canaleses" (Iroquois). The Naskapi and their ancestors began to occupy the interior of the Ungava-Labrador peninsula over 3,500 years ago. Formerly divided into small groups of autonomous and highly mobile hunters, made up of one or a few related families, the Naskapis roamed the woodlands and the tundra following the seasonal movements of the caribou. Although they hunted and trapped small

game and furbearing animals on a seasonal basis, none of these resources provided them with as many raw materials as caribou, and none could be obtained in sufficient quantity to enable them to pass through 'winter. Despite fluctuations in the abundance of caribou, the use of this resource allowed the Naskapi to build a distinct cultural identity, as well as to enjoy a certain economic security and independence from neighboring societies. . The dynamic balance between the Naskapi and the caribou was ensured by the limited number of hunters, as well as by the Aboriginal values and religious rules which acted as mechanisms of wildlife management. In early and late winter, the Naskapi primarily hunted caribou from the George River herd, where the herd crossed the Koksoak River and the lower Caniapiscau River. At the beginning of the summer, hunting was traditionally done on the George River near Lac de la Hutte Sauvage. Even today, the place where caribou cross the river George is sacred to the Naskapi, since it was there that they reaffirmed their family and societal ties at feasts, dances and religious ceremonies. The Naskapi hunted caribou for their subsistence and, to a much lesser extent, trapped furbearing animals (mainly marten, mink and fox) for milking. The seasons for caribou hunting and furbearer trapping overlapped, but these animals did not have the same habitats and were not harvested in the same way, which made it difficult to combine the two activities effectively. The Naskapis, unwilling to give up caribou hunting, therefore never succeeded in establishing and operating permanent and productive traplines. As a result, trade with the Naskapi was never very profitable for the fur trading companies. Nevertheless, the expansion of the fur trade in the interior of the Ungava-Labrador peninsula profoundly transformed the economic and socio-cultural system of the Naskapi.

The Hudson's Bay Company (HBC), motivated by the possibility of trading with the Naskapi (and Cree) inland, intended to establish supply routes on which it would have added satellite stations to link the Fort Chimo station to that of Lake Melville / Hamilton Inlet, on the Labrador coast, and to that of Mingan, in the Gulf of St. Lawrence. The HBC therefore organized several inland expeditions to learn about the rivers, the variety and abundance of furbearing animals, the indigenous people and their favorite sites, as well as other local conditions. Erlandson, in the service of the HBC, was the first in 1832 to explore the interior of Ungava, up the river from Fort Chimo to promote trade with the Naskapi. He established a post which he named South River House on the Caniapiscau River. This initiative proved unsuccessful, however, and the post closed in 1833. Multiple factors contributed to thwarting the HBC's efforts to establish profitable trading activities in Ungava. Regular commercial transactions with the Naskapi took place primarily at the HBC post at Fort Chimo. In 1916, James Watt, then manager of the Fort Chimo post, was ordered to build Fort Mackenzie to meet the needs of the Naskapi and the growing world demand for quality marten furs. This was a satellite station located inland on Lake LeMoyne (also known as Canichico), some 12 km upstream from the junction of the Swampy Bay and Caniapiscau rivers. Not only did the fur trade create a dependence on goods from outside, but it also caused the genealogical isolation of the Naskapi hunting groups and the reduction of their horizons. The Naskapi, Cree, Montagnais and Innu of Labrador were probably one and the same people at the time they migrated to the Ungava-Labrador peninsula. They divided into groups of hunters and were aware of their respective movements. They gathered in various places, either by chance or in places they had found suitable at a previous gathering. One group of hunters knew their hunting grounds well and, beyond their horizon, relied on the knowledge of other groups of hunters. The arrival of the trading posts turned this system upside down, as they became the common places for gathering, planning and celebrating weddings. As the various groups of hunters moved more and more frequently to different trading posts, they gradually moved away from each other, which had the effect of considerably reducing the knowledge of each of the groups of hunters of resources. present beyond their horizons and their hunting grounds. The people who could have provided them with such information were no longer there. The Naskapi generally did not travel down the George River to Ungava Bay, and they rarely traveled to the Koroc River valley for fear of conflict with the Inuit. However, they met annually at Fort Chimo to stock up, divide into hunter groups and seek consensus on livelihood strategies to adopt. As the boundaries of the Inuit and Naskapi territories overlapped, interactions between the Inuit and the Naskapi were sometimes marked by friendship and cooperation, sometimes hostile, but they were mainly characterized by a certain fear of strangers.

Due to differences in culture, language, hunting methods and worldview, as well as the fact that they had rarely come into contact before the arrival of the first Europeans, the two peoples experienced apprehension and fear of each other. Oral history, supported by local Kangiqsualujjuaq traditions, suggests that the Naskapis were once present in the region, particularly around the Koroc and George rivers, upstream from Pyramid Peak. Occasionally, Naskapi paddled down the George River to collect ammunition at the George River trading post, although Inuit and Naskapi encounters along the George River were rare. At the turn of the 20th century, the isolation of hunting groups and the rapid decline of the caribou herd, in addition to the change in its migratory routes, caused much misery and suffering, and even famine, among the Naskapi.

CRIS (the)

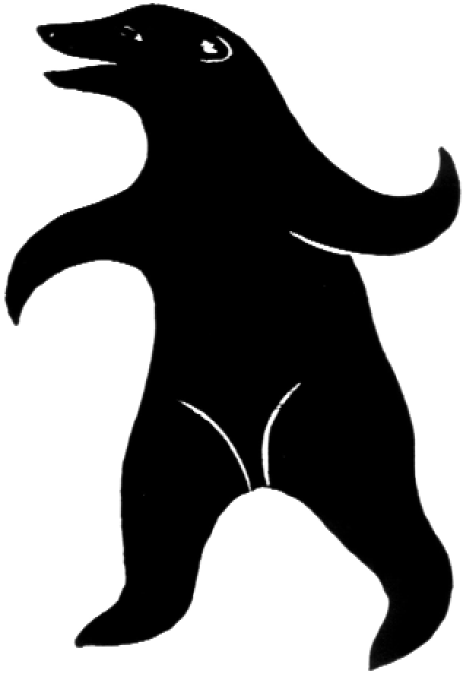
Between the 49th and 55th parallel, the Baie-James basin, the largest freshwater reserve in Quebec, is the ancestral territory (Eeyou Istchee) of the Crees. Designating themselves as a nomadic people of hunters (Ndooheenou), the Crees moved according to the seasons, following animal migrations. Originally from the plains of Western Canada, the Crees roam these vast landscapes of thick boreal forests interspersed with lakes and rivers where mammals (beaver, moose, caribou, wolves, lynx, foxes, bears) birds (ducks, geese) abound. white, snowy owls, eagles, hawks, ptarmigan, geese, loons) and fish (pike, walleye, trout, arctic char, salmon, lake trout). The end of summer announces the harvesting period for berries and small fruits used as food, medicine and tincture. The boreal forest is gradually giving way to the northern taiga. The territory's climate is cold continental, characterized by significant temperature variations. The luminosity of the northern sky sparkles with millions of stars

and hundreds of phenomenal aurora borealis in amazing colors (opalescent green-blue-pink). With over 16,150 people, the Crees form the third most populous nation in Quebec. The nine Cree villages are located on the shores of James Bay (Waskaganish, Eastmain, Wemindji and Chisasibi) and Hudson Bay (Whapmagoostui), as well as inland (Nemiscau, Waswanipi, Mistissini and Oujé - Bougoumou). The entire population speaks the Cree language, while English is the second language of the majority. A large number of people, especially young people, also speak French. Note that the Crees do not have the same legal status as the Inuit. The Crees are subject to the Indian Act, a true civil code which establishes the federal guardianship of the government of the Whites over the Canadian Native American communities . The Crees belong to the Algonquian linguistic group which includes the majority of the Amerindians of eastern North America. The Cree use a syllabic writing system developed by Methodist missionary James Evans in 1840 to disseminate religious texts. For decades, the syllabic script was known and used by almost all Cree adults.

BLACK BEAR (aksak)

The black bear represents for the Amerindians of the North (Canada - USA); what the polar bear means to the Inuit; what the jaguar represents to the Aztecs and Mayans; what the Vulture Urubu says the "purifier" represents for the Incas, ie a totemic animal at the heart of their respective culture.

Among the Cree, the most powerful shamans are those who have bears as mediators and friends; even better for those who are able to become bears and do whatever bears do. The hunting of the bear for ritual purposes takes place according to a rite where the hunter, alone in front of the sleeping bear in his winter den, must first make a fir tree carpet because it is on this carpet the bear must be killed so that the blood does not touch the snow. Affectionately calling him comis (Grandfather) or kokan (Grandmother), he asks her permission to kill him and take his meat to feed his family and people. Once the sacrifice was done, the men smoked to honor the spirit of the bear and inserted a little tobacco into its mouth. It is thanks to tobacco, the spiritual gift par excellence, that the shaman establishes relationships with the Spirits because for the Aboriginals, smoking is equivalent to praying. Tobacco and these substitutes (leaves, bark, herbs, cacti, mushrooms) were used in all ceremonies. Smoked, burnt, eaten, placed on the ground or buried in the earth, these sometimes hallucinogenic substances were part of the spirituality of the first peoples. Then, the bear is brought under a tent where the shaman watches over it all night and by incantations thanks him for having given his life to keep alive another life than his own. At dawn, the animal is skinned and butchered after checking that there are no children or women in the area. This precaution prevented women from giving birth to stillbirths and death from striking children. After the debitage, the shaman, the hunter and his companions pass bear grease in the hair then, the head of the bear is hung in a tree at a height inaccessible to the wolves so that the spirit of the bear can travel unhindered to the constellations. Edible meat is brought to the village where a bear festival (makotan) will take place. This festive meal includes only the meat of the plantigrade and is interspersed with dances and songs which, in the eyes of the Amerindians, are prayers addressed to the Grand Manitou. When you dance while putting on the bear's skin and mimicking its heavy gait, you are sure to provoke a new encounter with the animal during a next hunt. The animal's heart went right back to the hunter who had shot it down so that the courage, the strength of the bear might be given to it. Dogs should never eat bones or



clippings no matter how small. After the meal, the unused bones and viscera were wrapped in a bark plate and placed in a tree decorated with ribbons. So the other bears would find that their fellows had treated and honored well. This respect for the bear by the Crees contrasts sharply with the attitude of the Whites who began flooding the basin necessary for the La Grande dam late in the fall, while the bears slept in their den. About 300 bears drowned in hibernation.

The black bear, the smallest living bear in North America, is an opportunistic omnivore. The black bear (American USSR) is nowadays one of the most famous wild animals. It belongs to the Ursidae family found almost everywhere in the Northern Hemisphere and in some northern parts of South America. In North America, the other members of this family are the grizzly (brown bear) and the polar (polar) bear, both considerably larger than the black bear. Typically, a black bear has a black coat and brownish muzzle, and a white patch often adorns the lower part of its throat or chest. Although black is the most common color, some individuals have brown, dark brown, blond, cinnamon, or blue-black coats. Albino bears (white fur, red eyes and noses) are also observed, but they are rare. A unique white-haired non-albino population inhabits the Kermode Islands on the Pacific coast off British Columbia. Light-coated bears are more numerous in the West and in the mountains than in the East. These different shades can be found in cubs from the same litter, but usually the cubs are all the same color as their mother.

Because of its stocky figure, the black bear appears much heavier than it actually is. The adult male generally weighs 135 kg, but individuals of exceptional size have been observed, over 290 kg. The female is much smaller and weighs 70 kg on average.

Although rarely heard, black bears utter several distinct calls - growls, moans, jaw snaps and loud sniffles of all kinds - usually when afraid or threatened. The female warns her cubs of danger with a loud bark and calls them back to her with a whine or moan. And when they are in danger, the little ones cry a bit like a baby. Although it frequents a variety of habitats, the black bear prefers dense forests and thick brush. It is probably in the mixed coniferous and deciduous forests that it is found in greatest number, ie where the human presence is weak. Thus, in the wild areas, it is generally from dawn to dusk that it is busiest, while in the sectors more affected by human activity, it is rather nocturnal, in order to avoid contact. with the human being. Its diet is mainly composed of stems, buds, roots, leaves, nuts, fruits and young shoots of plants. It also occasionally feeds on fish, small mammals and birds, and may prey on young caribou and moose. It frequents various habitats including the tundra and favors areas located near waterways or swamps. In the fall, when the days get shorter and the weather colder, the bear searches for a den, either under a tree stump or an overturned trunk or in a cavity on the hillside. Most of the time, that den is just big enough for him to snuggle into. Unlike the male, the female usually lines the ground in her den with grass, ferns or leaves. It usually begins to winter earlier than the male, which often waits for the first snow before reaching its shelter. The juveniles (one year old) overwinter with their mother. So imagine a mother with three or four one-year-old bears in such a small place! According to recent physiological studies, the black bear in its den exhibits some of the characteristics of a true hibernating animal. This is because if his body temperature drops only slightly, his heart rate and breathing slow down considerably. In addition, unlike many small hibernating mammals, black bears do not feel the need to feed or defecate, but survive on their fat stores alone. However, it is not a true hibernator, as it can wake up if disturbed enough and it can quickly become alert again. And if the weather becomes unusually mild, he may even leave his den for short periods. The female will give birth to her young during her winter rest, either in January or February. With the onset of spring and milder weather, when the leaves of the trees come out and the plants turn green, the bear emerges from its den in search of food. During the winter, it can lose up to 30%. 100 of its weight, and its forced slimming treatment continues during the first months of summer, until mid July and the appearance of berries. The bear only really regains weight in the fall, when it can have access to all the fruits and the semences of trees, or paisson, especially beechnuts and acorns. And if the amounts are there, then some individuals will double their weight in less than two months.

Mississippi Valley

In the Mississippi valley, it is the populations belonging to the so-called "Mississippian" culture which flourished from the 9th century to the 16th century. Experts usually divide this period into three. The Lower Mississippian, which extends from about 800 to 1000 (the periodization varies from one region to another), represents a first phase of transition during which various populations abandon the forms of tribal organizations characteristic of the woodland in favor of sedentary lifestyle, intensive agriculture, and political centralization. The Middle Mississippian, which spanned most areas from 1200 to 1400, represents the height of this new culture, the time when the great metropolises peaked and the spread of art and symbolism that characterized it was at its peak. Between 1400 at the time of the first European contacts, the Upper Mississippian was characterized by the intensification of political and social turmoil, and finally the dispersion of populations.

Eating habits

While corn cultivation did not reach the Great Lakes and Upper St. Lawrence region until the early 14th century, this food revolution began in the Mississippi Valley from the 9th century. Corn grew exceptionally well along the Mississippi and its tributaries, regions with fertile soils and a temperate climate. Because it made it possible to support a larger population, denser agglomerations, as well as a specialization of the labor force, the intensive cultivation of corn led to the formation of a series of metropolises and satellite communities.

The abundance of stone holly at archaeological sites testifies to the fundamental importance of agriculture in Mississippian life. In addition to corn, squash, beans, and sunflowers were cultivated. The rivers near which the towns and villages were established provided fish, mollusks and other aquatic creatures such as turtles, which served as important supplements to the Mississippian diet. Hunting, especially deer, as well as berry and nut picking also played an important role.

Land occupation and social organization

Most of the villages in the region, before the transition to the Mississippian phase, were small and occupied only seasonally. With the cultivation of corn and population growth, the variety of these sites multiplied: towns, villages, hamlets and isolated dwellings. The larger cities served as religious, political and administrative centers for the population of the surrounding satellite communities. The houses had a square or rectangular plan of about thirty-five square meters, often plastered walls and thatched roofs, and were generally aligned in an orderly fashion around a central plaza. The Mississippian communities were moreover especially characterized by the presence of rectangular mounds with a flat top, reaching up to 30 meters in height, crowned with temples, mortuary buildings, and elite residences. A palisade or a defensive embankment usually completed the whole.

Social stratification was more pronounced among the Mississippians than among the Native peoples of the northeast. The control of political and religious power rested in the hands of an elite, even an individual. Chiefs, whose foundations appear to have been hereditary, governed the redistribution of food between satellite communities and major towns. They could mobilize a large population for war or public works, as evidenced by the existence of mounds whose construction required a sustained collective effort. Although the state of knowledge remains limited, the elite seem to have accumulated the functions political and religious. It is probable that the chiefs supervised the exchange of goods within their territories and with neighboring territories, as well as directed the activity of a whole range of specialized craftsmen.

The most imposing and influential Mississippian city was that of Cahokia (near Collinsville, Illinois), occupied between 600 and 1400. Situated in a strategic location, near the confluence of the Mississippi, Missouri and Illinois Rivers, this city covered an area of almost of nine square kilometers and contained some one hundred and twenty burial mounds. Occupied by around 1000 people until the middle of the 11th century, Cahokia saw its population grow exponentially thereafter, becoming the most important urban center north of the major Mexican metropolises. At its peak, archaeologists estimate Cahokia's population to number 8,000 to 40,000.

Art and religion

The Mississippian trade networks were continental in scope, allowing artisans in Cahokia and elsewhere to acquire exotic substances that specialized artisans then shaped in their own way. From whelk shells from the Atlantic Ocean or the Gulf of Mexico, they made cups, gorges, pearls and all kinds of other ornaments. With red argillite mined in Missouri, they carved very elaborate statuettes and pipes. Copper nuggets from the Great Lakes were hammered into sheets, then engraved or worked in relief. The so-called Mill Creek flint, coming from southern Illinois, was redistributed throughout the Mississippian world and cut into bifacials, holly, and other tools much appreciated for their durability. Local wood, clay and stone were also worked well. Some figures regularly recurred on the ornaments and containers: feathered snakes, winged warriors, spiders, human faces with weeping or hawk eyes, human figures and a variety of geometric patterns.

The material culture of Mississippi, as well as the descriptions of the first European explorers, make it possible to paint the contours of the religious sphere. The consistency of the iconographic themes suggests a unified set of beliefs that archaeologists have termed the "Southeast Ceremonial Complex". The cult of ancestors seems to have played an important role: it is probably them that represented the kneeling figurines that have since been found during excavations. Members of the elite were buried under funeral buildings placed at the top of mounds, surrounded by exotic ritual objects and sometimes slaves or servants sacrificed to accompany their masters in the afterlife.

The decline of the Mississippians

Even before the first European explorers arrived in the American Southeast in the 16th and 17th centuries, Mississippian culture had begun to decline. The population of Cahokia dispersed quite early during the Upper Mississippian, around 1350 to 1400, possibly migrating to other ascending political centers. The population of the other centers dispersed over the next century and a half, however. Among the possible explanations, let us underline the impact of epidemics of European strain, such as smallpox, but also that of the planetary cooling of the Little Ice Age as well as long periods of drought that would have undermined the cultivation of corn and forced the dispersal of inhabitants of large metropolises.

INUIT LABRADOR

INUIT GROENLAND

APACHE

NAVAJO

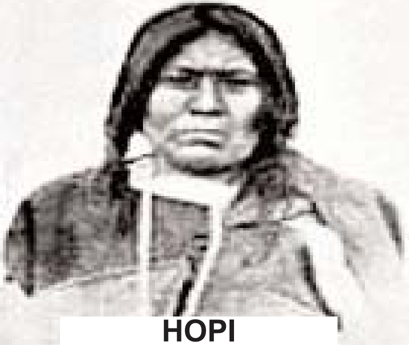
ILLINOIS

CHEYENNE

MANDAN

UTE

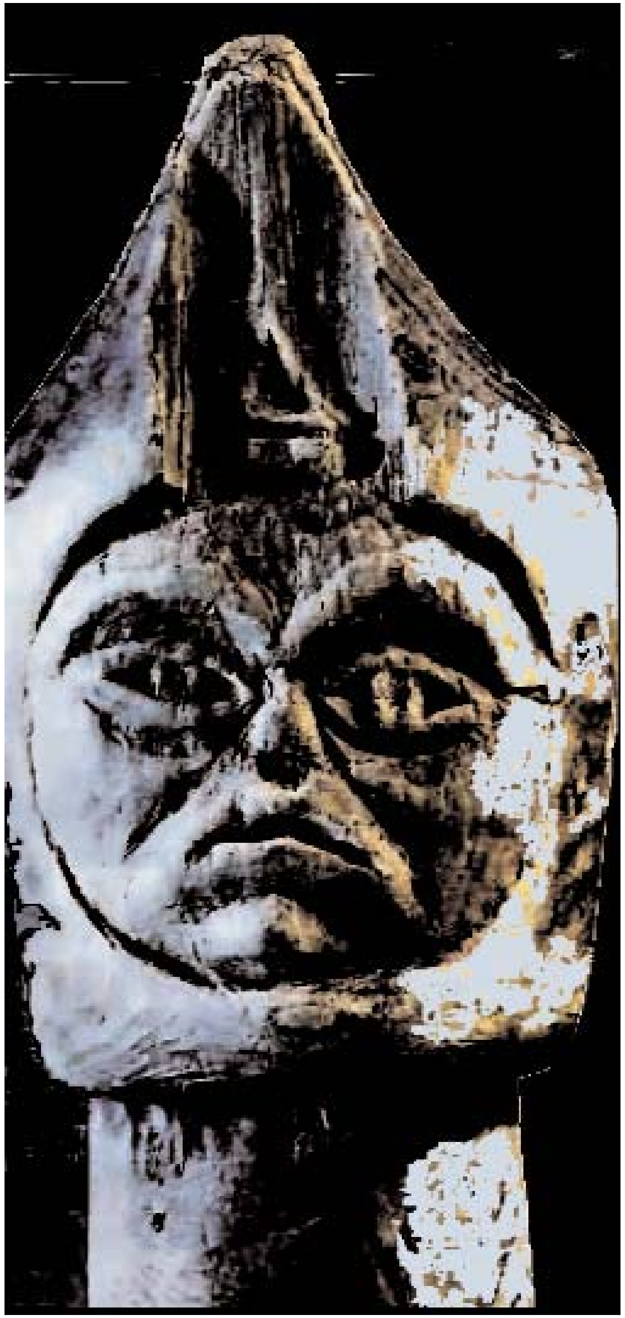
DAKOTAS



HOPI

NEZ PERCÉ

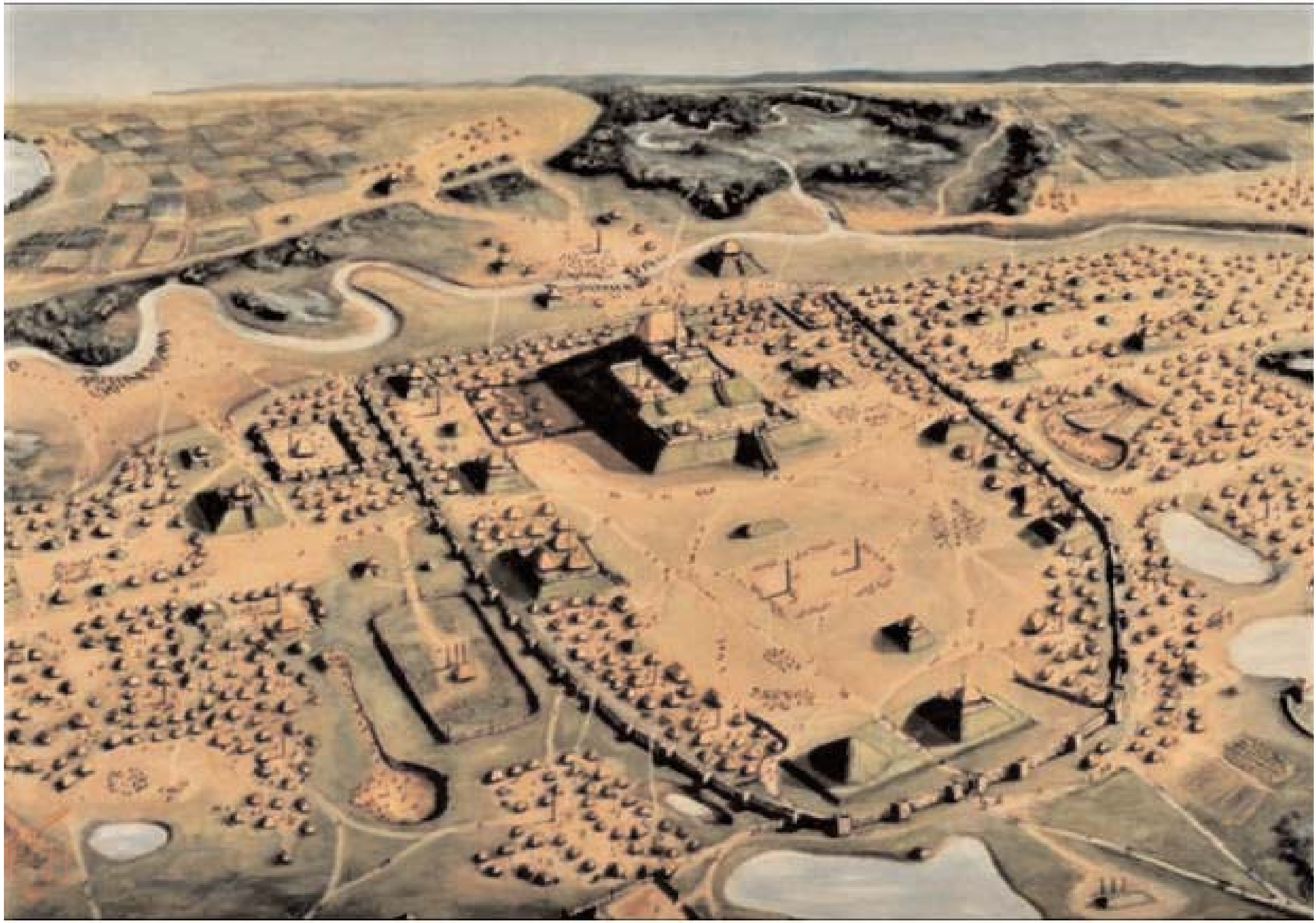
WICHITA



Cahokia

The city of Cahokia, which was one of the most powerful cities in North America before European colonization, has neither mysteriously nor suddenly disappeared, according to the latest findings of anthropologists. What to break a little more the received ideas on the past of Amerindian city of exception.

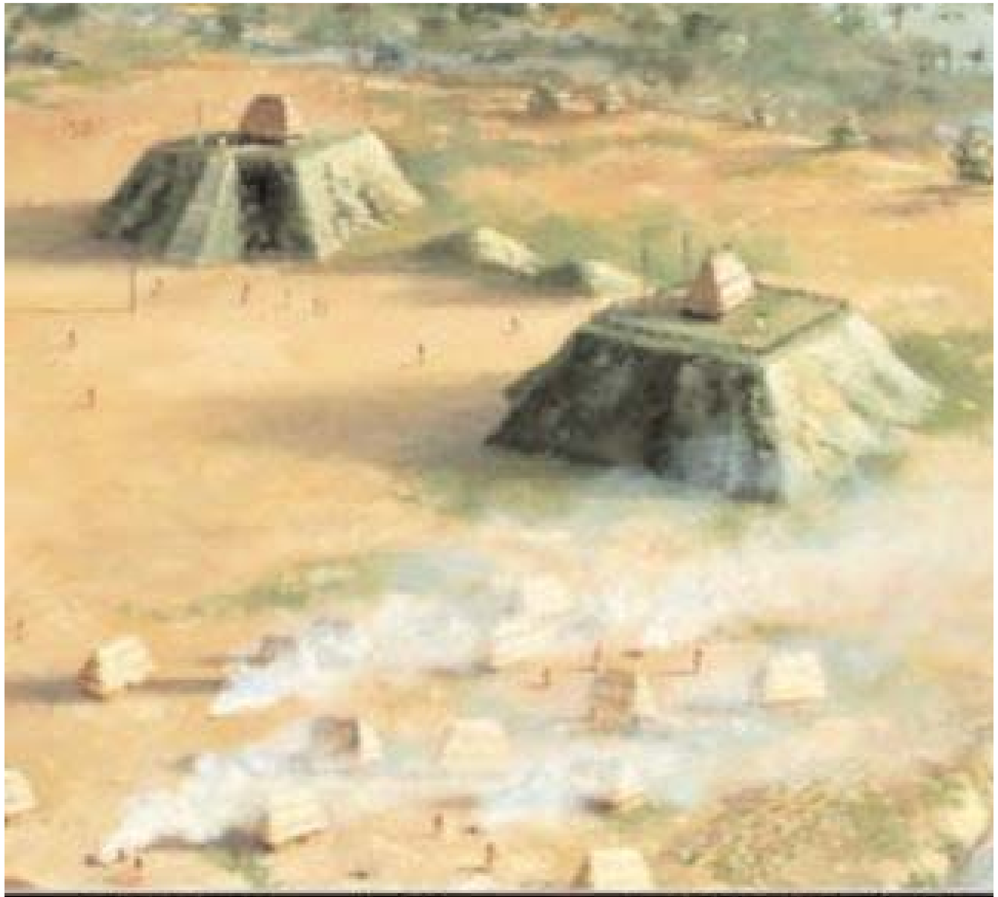
At its peak, around the 12th century AD, Cahokia was one of the largest cities in North America, a land still untouched by Europeans. It will take almost 600 years for another city, Philadelphia, to reach the same size in the territory of the United States. Yet today, the one that housed the tallest pyramids in Mississippi, in what is now southern Illinois, is closer to a simple dented glade than to a majestic archaeological site (nothing to do with Teotihuacan, cradle of the pre-Columbian civilization where also stood, a few centuries earlier, the largest pyramids of the whole continent). Of the Native American Cahokia, there is not much left, real estate developers and builders of highways having completed, until the 1960s, destroying its remains, already dilapidated by time.



Une vue d'artiste de la ville de Cahokia, qui fut l'une des plus grandes cités amérindiennes d'Amérique du Nord aux alentours de 1100 ap. J.C. Elle se situe dans le Sud-Ouest de l'actuel État de l'Illinois, aux États-Unis.

Talk about ... feces

In the journal American Antiquity, the anthropologist and lead author of the study AJ White reports that after analyzing human fecal stanols (see box below), fossilized pollen or even charcoal, he and his collaborators had been able to establish that the inhabitants of the most emblematic pre-Columbian metropolis in North America had not "suddenly deserted" their weakened city either.



Shiloh Mounds (Tennessee), 1000-1350 CE

About 800 years ago, a town occupied the high cliff of the Tennessee River, east of the Shiloh Plateau. Between two steep ravines, a wooden palisade contains seven mounds of earth and dozens of houses. Six mounds, rectangular in shape with flat tops, probably served as platforms for important buildings in the city. These structures may have included a council house, religious buildings, and residences of city rulers. The southernmost mound is an oval mound with a rounded top in which city rulers or other important people were buried.

This city was the center of a society that occupied a thirty-mile-long stretch of the Tennessee River Valley. Around 1200 or 1300 AD, locals moved out of this part of the Tennessee Valley, possibly to places upstream now submerged under Lake Pickwick. Given that Shilo's society disintegrated several hundred years before there was any written record to tell us who they were, it is not clear if or how the residents of Shiloh were related to later societies like the Choctaw, Chickasaw or Creek.

Archaeologists call the society centered in Shiloh a "chiefdom". The chief would have been the most important political leader as well as the religious figure. Probably a council, made up of elders and respected members of the community, shared power with the chief. The chief's close relatives would have been treated like nobles; some were probably buried in "Mound C."

Residents of the Shiloh site were farmers. Maize (maize) was their most important food. They also grew squash and sunflowers, as well as lesser-known crops such as crow's feet, marshelder, and maygrass. In addition to their crops, they also ate a wide variety of plants and wild animals. The most important wild plant foods were hickory nuts and acorns. Most of their meat came from deer, fish, turkeys, and small animals such as raccoons, rabbits, and squirrels.

In addition to the Shiloh site, the chiefdom included six small towns, each with one or two mounds, and isolated farms scattered high up in the river valley. Downstream, on the east side of the river, Savannah, Tennessee marks the site of another palisaded settlement with several mounds. Most of Savannah's mounds were built much earlier, around 2,000 years ago, but the site was reoccupied around the same time as the Shiloh site. We do not know if these two cities were occupied at exactly the same time. Modern buildings in Savannah have destroyed most of the prehistoric site.

The Shilo chiefdom had other chiefdoms as neighbors in what is now Alabama, Mississippi and western Tennessee. Most chiefdoms occupied portions of major river valleys, such as Tennessee and Tombigbee. Some of the neighboring chiefdoms were said to have been hostile to the Shilo chiefdom, while others were linked to Shilo by political alliances. The archaeological evidence of these alliances survive in the form of "prestige goods" exchanged by the chiefs as a pledge of their friendship. We can often tell where specific prestige goods were made. If we know where a particular item was manufactured and where it was sent, we can tell who traded with whom. In the case of Shilo, one can say that political links existed with a powerful chiefdom in Cahokia, near Saint-Louis. In contrast, there is no evidence of political ties to the chiefdoms of central Tennessee.

The first archaeological excavation of Shiloh took place in 1899 when Cornelius Cadle, chairman of the Shiloh Park Commission, dug a trench in "Mound C." There he found the site's most famous artifact, a large stone pipe carved in the shape of a kneeling man. Now on display at the Tennessee River Museum in Savannah, Tennessee, this effigy pipe is made of the same distinctive red stone and is carved in the same style as a number of human statuettes from the Chiefdom of Cahokia, located near Illinois. of Saint-Louis.

Survey work in the winter of 1933-1934 revealed numerous small round mounds at the Shiloh site, each about a foot high and ten to twenty feet in diameter, the remains of mud and mud houses . These structures had walls of vertical posts intertwined with branches (acacia), which were then covered with a thick layer of clay (cob). Each house had a fireplace in the center of the floor. A palisade wall, also made of acacia and cob, protected the site.
The early inclusion of the mound area within the boundaries of the National Military Park protected the site from modern use. Because the Shiloh site has never been disturbed by the plow, the mud of the collapsed walls always looks like rings or low mounds. Shiloh is one of the very few places in the eastern United States where the remains of prehistoric houses are still visible on the ground surface.

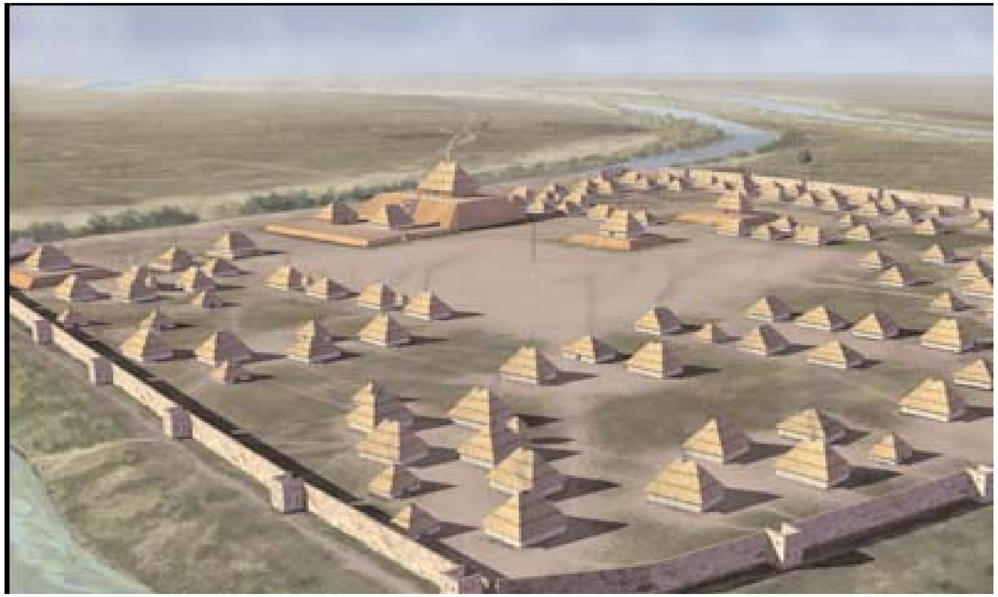
The construction of prehistoric mounds is a practice observed throughout North America. The Mississippi River Basin is home to thousands of these mounds, including the Shiloh Indian Mounds, located on an elevated plateau above the Tennessee River. The site, also renowned as a Civil War battlefield, contains at least seven mounds and the remains of nearly a hundred buildings. Archaeological excavations have revealed that a peripheral palisade protected this complex, built from wooden poles and potentially filled with clay. The 22-hectare complex was organized around a centralized square.

The site is dated to around 1100-1300, or about 800 years ago, and was owned by a chiefdom society that occupied the Tennessee River Valley. According to the National Park Service, which currently manages the Shiloh Mounds, the locals were farmers and cultivated crops such as corn, squash and sunflowers, while hunting for foodstuffs such as deer, turkey and fish. Of the mounds at the site, six are rectangular in shape with a flattened top, suggesting that these acted as platforms for other structures such as council houses or dwellings.

One of the mounds, a burial place, is oval and rounded. Archaeological work at the site began as early as 1867 and includes the mapping and measurement of mounds by CB Moore in 1914; the largest earthwork, Mound A, stands at 14 feet 6 inches while the lowest, Mound E, stands at 5 feet 1 inch. An excavation by the Civil Works Administration in 1933 revealed the remains of stocky piles, about 1 foot high, which researchers say are the remains of cob and mud structures constructed from wall studs surrounding spaces ranging from 10 to 20 feet, each with a fireplace centered inside. Because mowing is not permitted, Shiloh is one of the few sites that has preserved the remains of such structures.

The palisade barrier was also constructed from straight, tight posts.As recent geo-archaeological research suggests, mounds of earth such as Shiloh should rightly be considered monumental designs, as the assessment of soils and sediment suggests that a level of sophistication was required to construct these shapes. Pre-Columbian skills included knowledge of the soil, engineering, and construction processes, not to mention access to a skilled workforce. In Shiloh, different soils were deliberately mixed together, while blocks of sod lined the mound embankment, the entirety of which was finished with a red veneer. Mound-building, as Shilo himself suggests, was not simply a process of accumulating soil, but rather a thoughtful, deliberate, and social act intended to communicate something about his society.

Taskigi Mound (Alabama), 1200-1830 CE



Parkin - Arkansas - 1400-1650 CE.

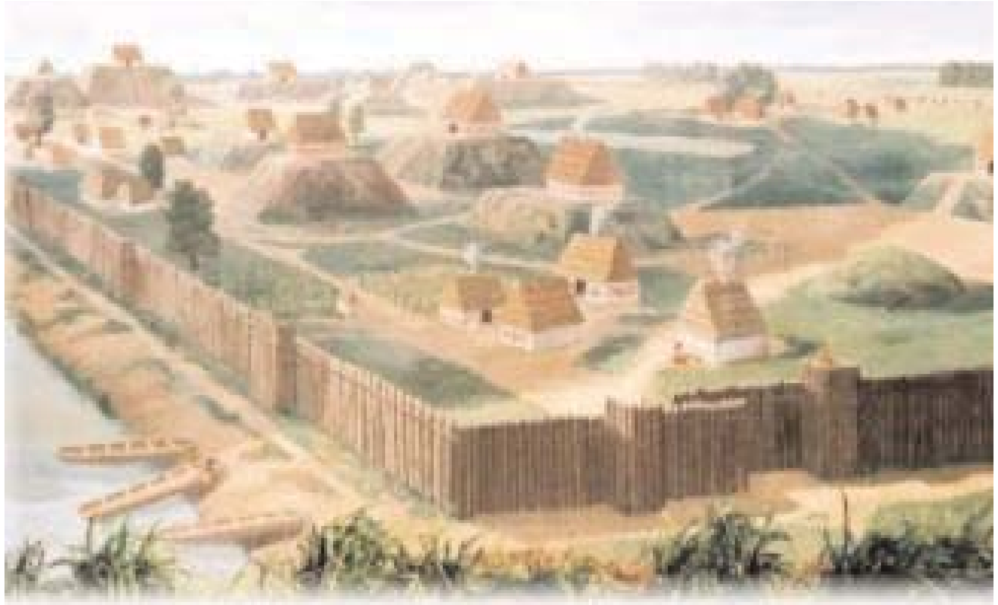
Troyville Earthworks (Louisiana), 100 BCE-700 C

EMERALD MOUND- (MISSISSIPPI) - 1200-1730

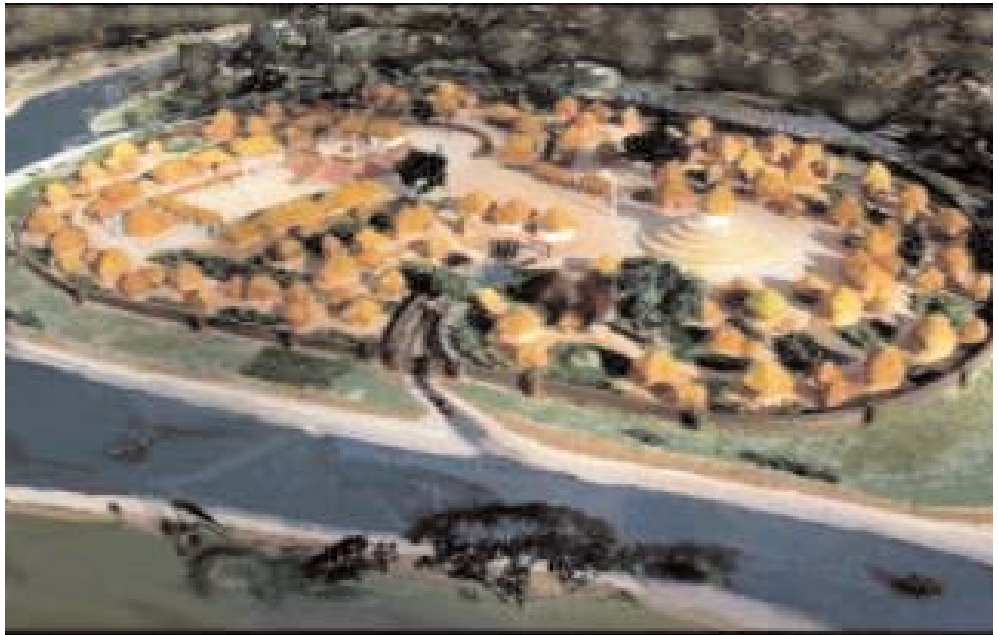
Annis Mound (Kentucky), 800-1300 CE

Newark Earthworks (Ohio), 100 BCE-400 CE

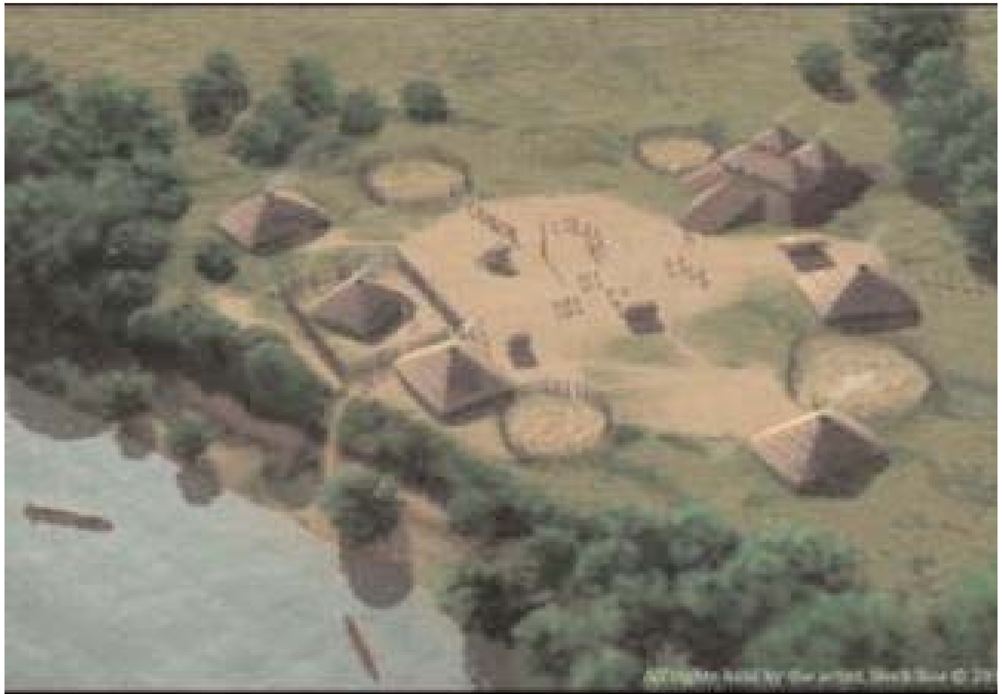
Nacoochee Mound (Georgia), 100-1600 CE



Kincaid Mounds (Illinois), 1050-1400 CE



Ichisi (Georgia), 990-1600 CE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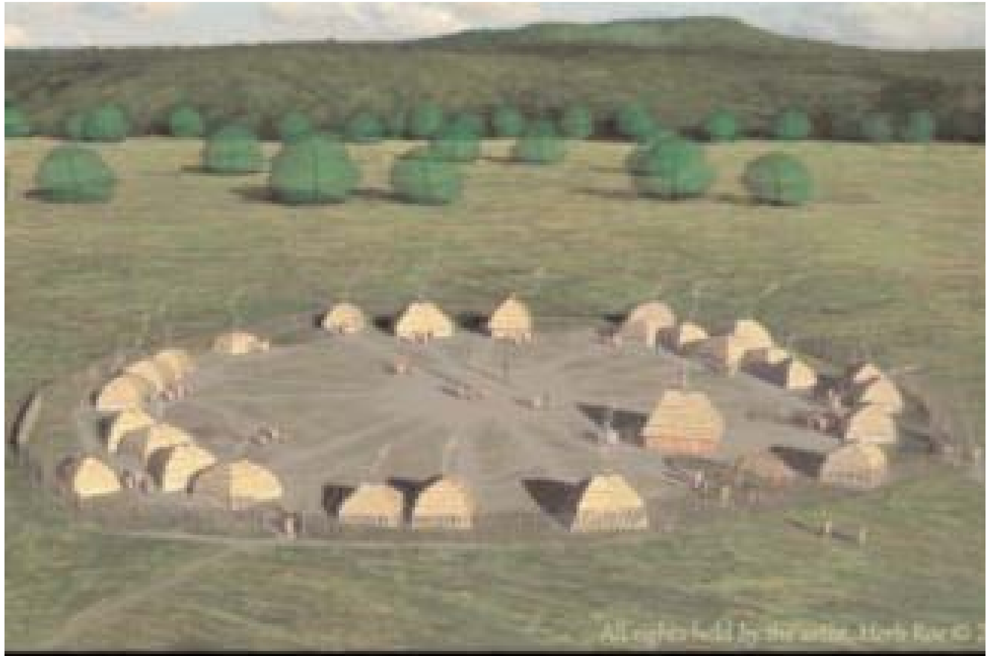
Town Creek Mound (N Carolina), 1150-1400 CE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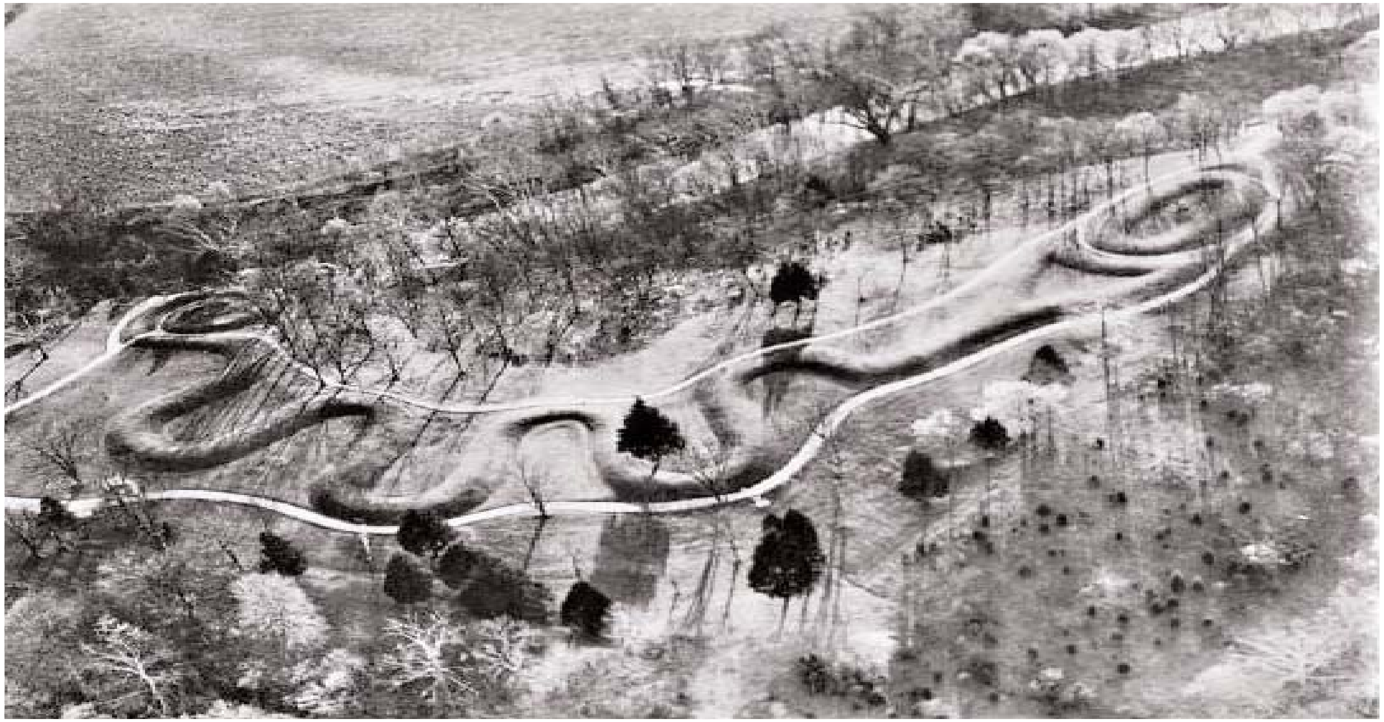
SunWatch Village (Ohio), c. 1200 CE

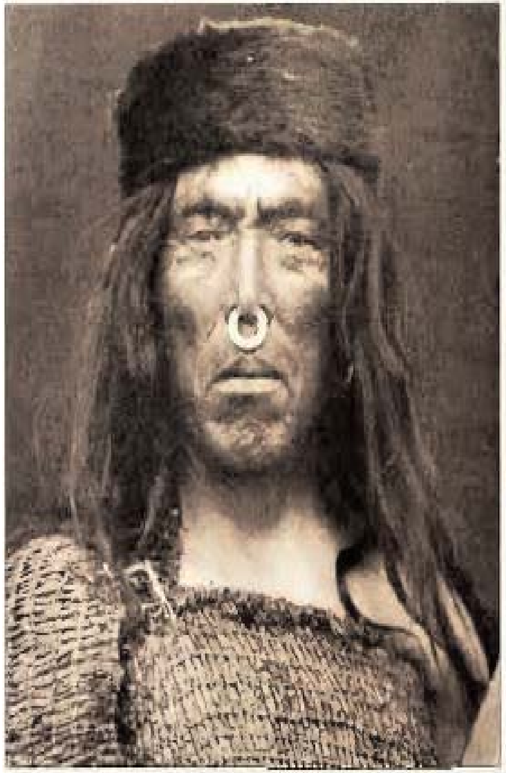
The Hopewell culture thrives throughout the Midwest. Hopewell's cultural tradition emerges in the Ohio River Valley and gradually extends south to the Gulf of Mexico and north to the Great Lakes. This culture has a lot in common with the Adena tradition that predated in what is now Ohio. Like the Adena, the Hopewell obtains food by hunting and gathering, supplemented by farming. Hopewell farmers will eventually add a new crop, that of corn, which gives them a more secure food supply and will allow their population to grow.

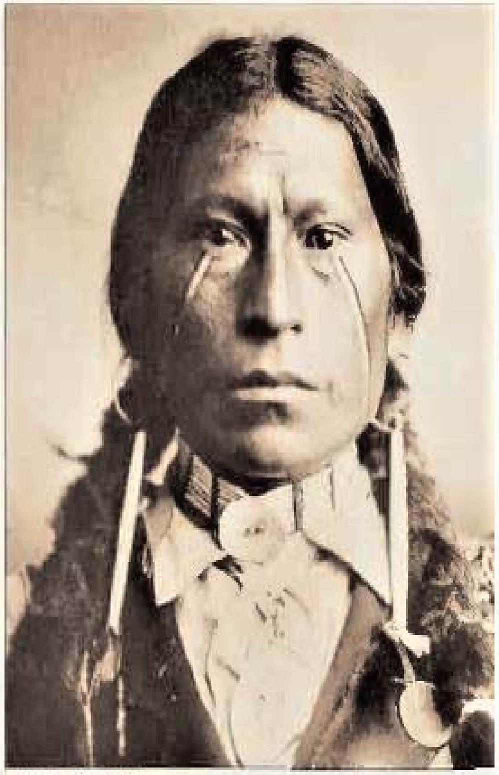
The Hopewells live in small villages, often clustered around large ceremonial centers. The settlements have much larger mounds than those built by the Adena. These mounds cover crypts that serve as burial chambers for the population and the political elite. Buried with corpses or their cremated ashes, we find several elaborate products, such as copper and breastplates and ear ornaments, animal carved pipes, pearl necklaces, painted fabrics and human and animal shapes made from flat copper and mica sheets. Many items are made from commercially obtained raw materials. Traders bring materials to ceremonial centers from as far west as the Rockies, as far east as the Atlantic coast, as far north as present-day Canada, and as far south as it is now the Florida. In urban centers, artisans made items which they traded for luxury goods, many of which were exported to outlying areas under the influence of Hopewell.

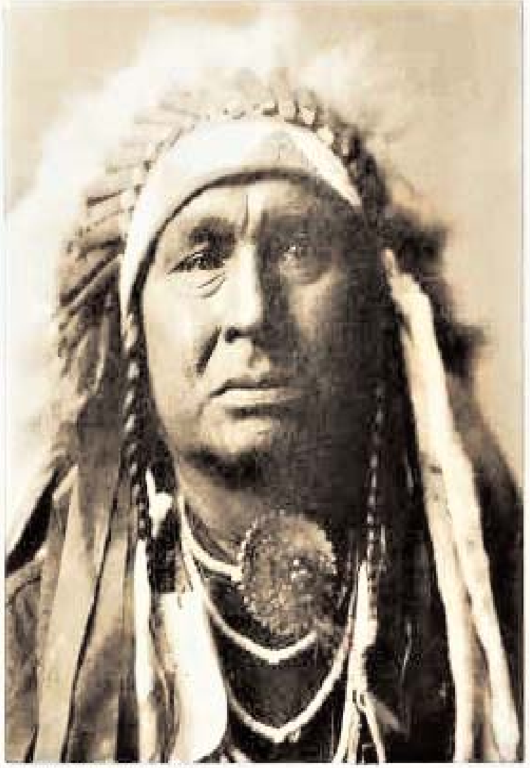


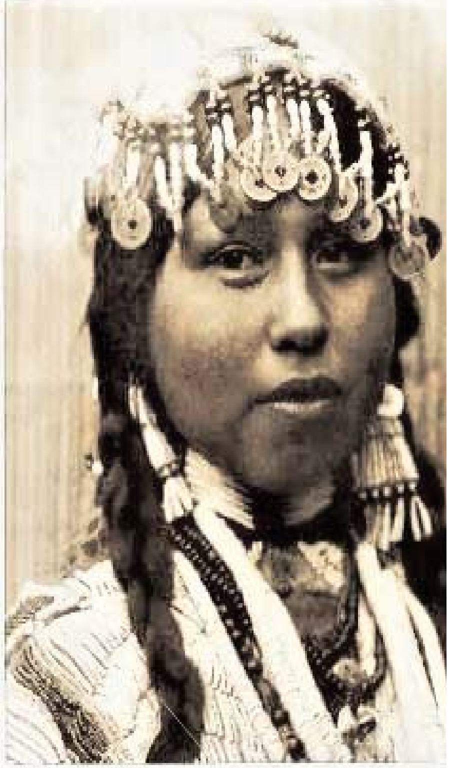
Great Serpent Mound, est construit dans ce qui est maintenant Adams County, Ohio, par les Indiens de l'Adena - Hopewell (CA. 200 avant JC à 400 après JC). serpent mesure environ cinq pieds de haut, 20 pieds de large et presque un kilomètre de long. Vu du ciel, on dirait un gigantesque déroulement su serpent avec sa bouche ouverte, tenant un ovale, uneforme qui peut représenter un œuf ou un corps céleste. Le serpent est évoqué souvent dans les traditions orales des Indiens de la région.

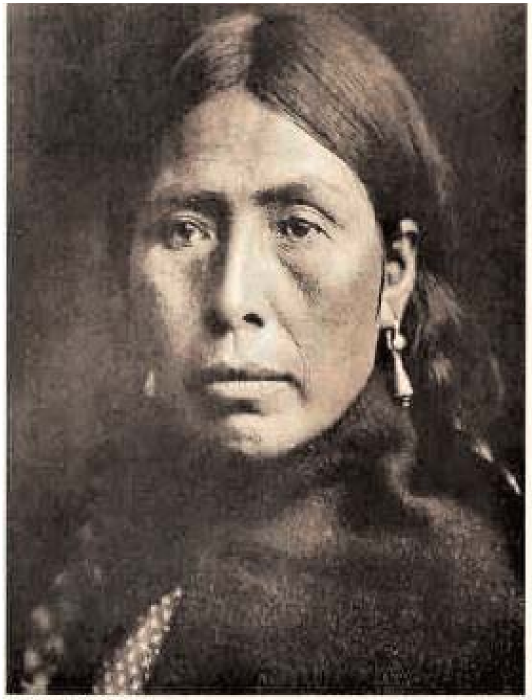
The cause of Hopewell's decline in the fourth century is not clear. Changing climatic conditions may have diminished their wild food resources, or the introduction of bow and arrows may have led to an increase in warfare. Other theories argue that growing corn may have destroyed the Hopewell crop. Corn, as a reliable food source, may have eliminated the need for the Hopewell trading network. It may also have encouraged the Hopewells to abandon their urban ceremonial centers for less densely populated settlements, where widespread famine was much less likely even if a given year's corn crop was low.

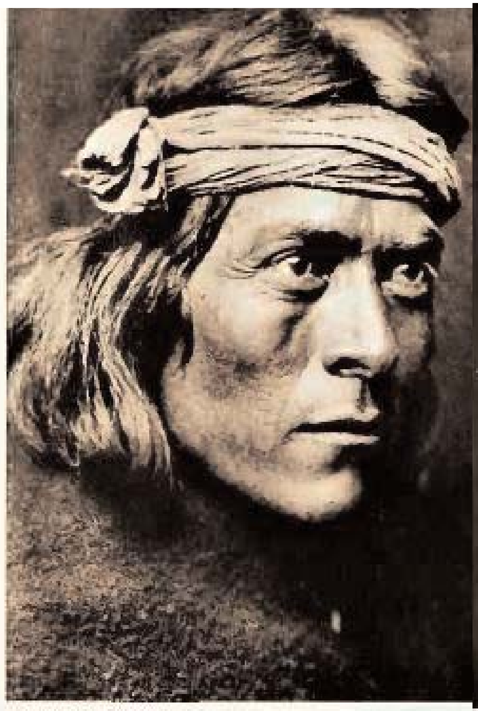

A NAKOAKTOK CHIEF

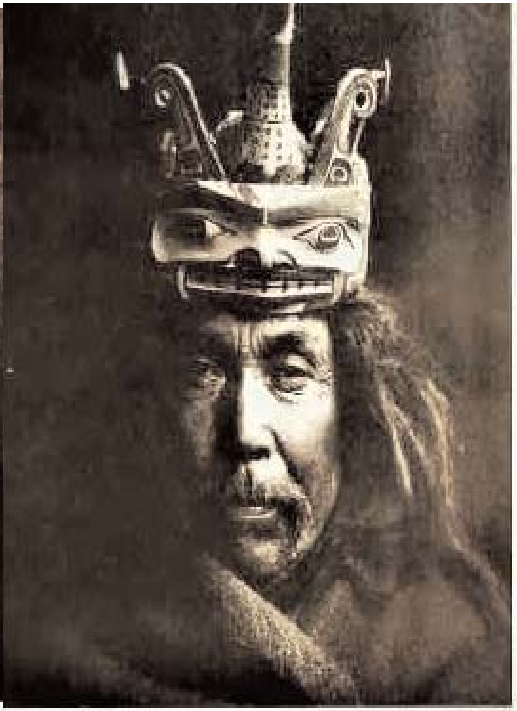

AN APACHE CHIEF

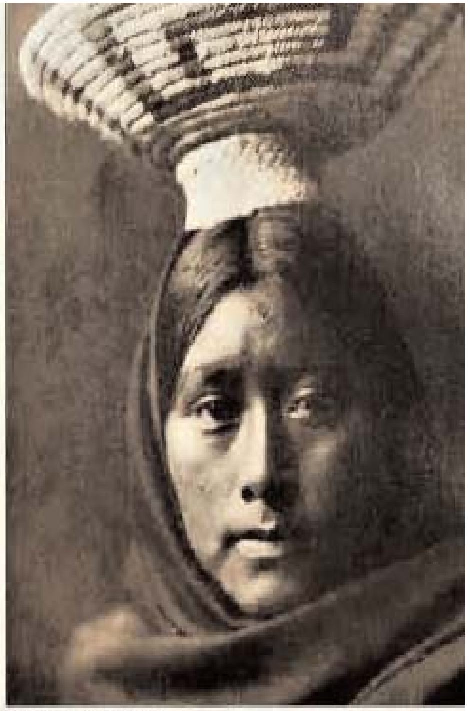

AN APSAROKE WARRIOR

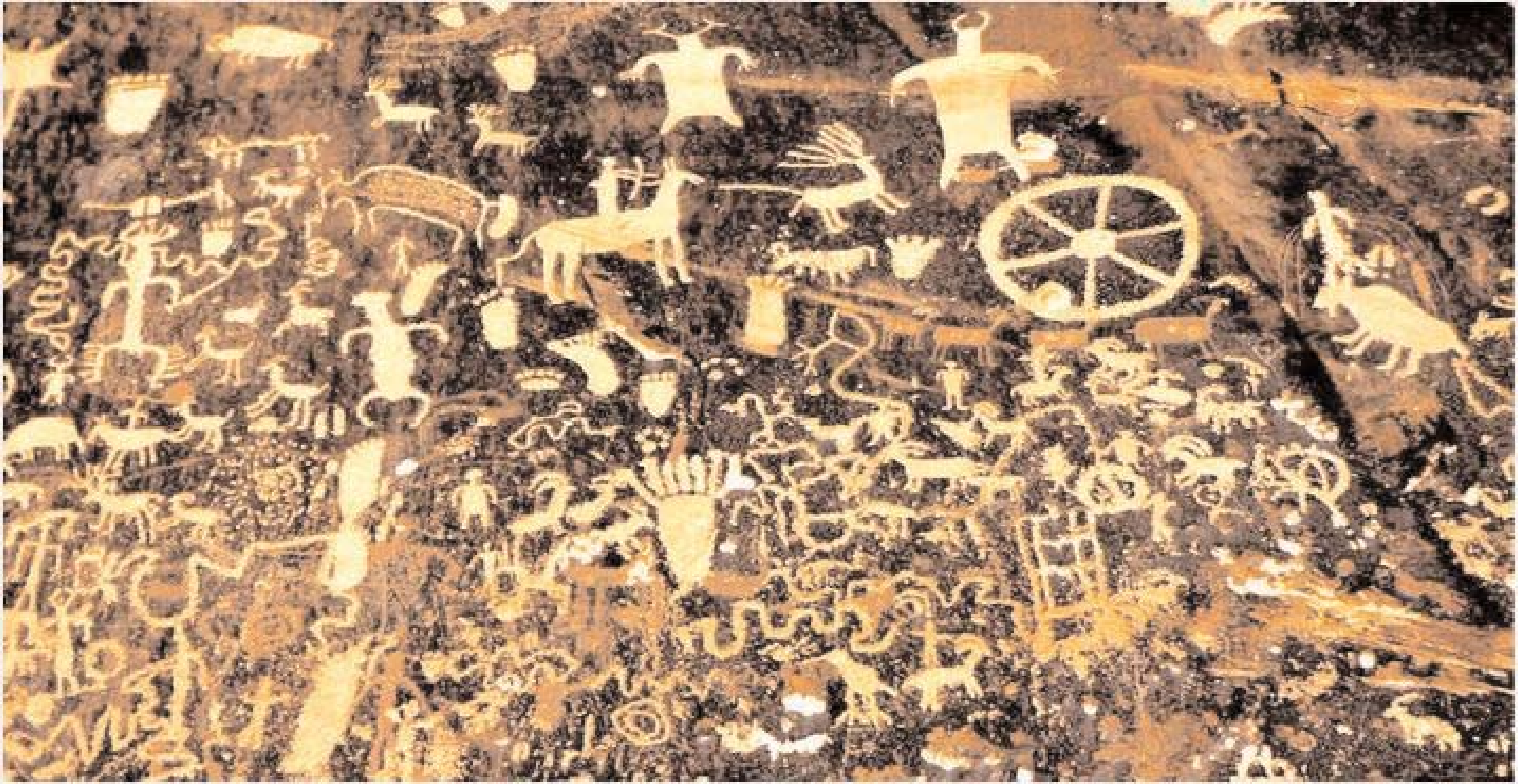

A WISHRAM BRIDE


A LUMMI WOMAN


A ZUNI GOVERNOR


KWAKIUTL CHIEF


A PAPAGO WOMAN



Anciens pétroglyphes amérindiens au Newspaper Rock, Indian Creek, Parc National de Canyonlands, Utah

Il y a sept siècles, la région des Four Corners (région des États-Unis où, fait unique, les frontières séparant quatre États : Arizona, Utah, Colorado, Nouveau-Mexique) se coupent à angle droit) abritait une civilisation indienne sophistiquée que les Navajos, arrivés des siècles plus tard, ont appelée culture des Anasazis (les Anciens). Ces agriculteurs habitèrent la région pendant plus d'un millénaire. Newspaper Rock est une surface rocheuse de 200 pieds carrés dans le comté de San Juan, dans l'Utah, qui est couverte par des centaines de pétroglyphes amérindiens, un art rupestre ciselé qui enregistre près de 2000 ans de l'activité humaine dans la région, comme un journal. Bien qu'ils sont typiques de nombreux sites à travers les États-Unis, ces pétroglyphes sont un des plus grands, les mieux conservés et facilement accessibles dans le Sud-Ouest. Les pétroglyphes disposent d'un mélange de formes abstraites représentant les cultures Fremont, Anasazi, Navajo et des formes humaines, animales . Les premières sculptures ont été faites il y a près de 2.000 ans par le peuple Anasazi qui était mieux connu pour leurs maisons de pierres et de terre plutôt que leur art. Le peuple Fremont, qui était contemporain des Anasazis, a également contribué à la pictographie de Newspaper Rock. Puis, vers 1300, ils sont soudain partis vers le sud en abandonnant leurs terres, leurs villages permanents [pueblos], leurs champs et les tombes de leurs ancêtres. Plus tard, les Utes et le peuple Navajo ont ajouté des figures représentant les chasseurs à cheval, et des images de boucliers, des guerriers et des roues.

NAVAJO or NAVAHO

Of all the Indian tribes in the United States, the Navajo group is the second largest: at the turn of the 21st century, it had a population of about 340,000 people scattered throughout northwestern New Mexico, northeastern New Mexico. eastern Arizona, southeastern Utah and eastern California. The Navajo speak an Apache language of the Athapaskan family.

The Navajo and Apache left what is now Canada to migrate southwest, probably between 900 and 1200. The Navajo were influenced by the Pueblo Indians from the beginning of the 17th century. We find this influence in agriculture, which has become their most important means of subsistence, and in their sedentary mode of existence. Subsequently, the breeding of sheep, goats and cattle supplemented agriculture. In some regions, it even dethroned it. The Navajo live in log and mud hogans. Men often practice steam baths, which serve as a meeting place for them and allow them to escape the curiosity and influence of women. The descent is in fact recognized in the maternal line and men often have a difficult position in their wife's family.

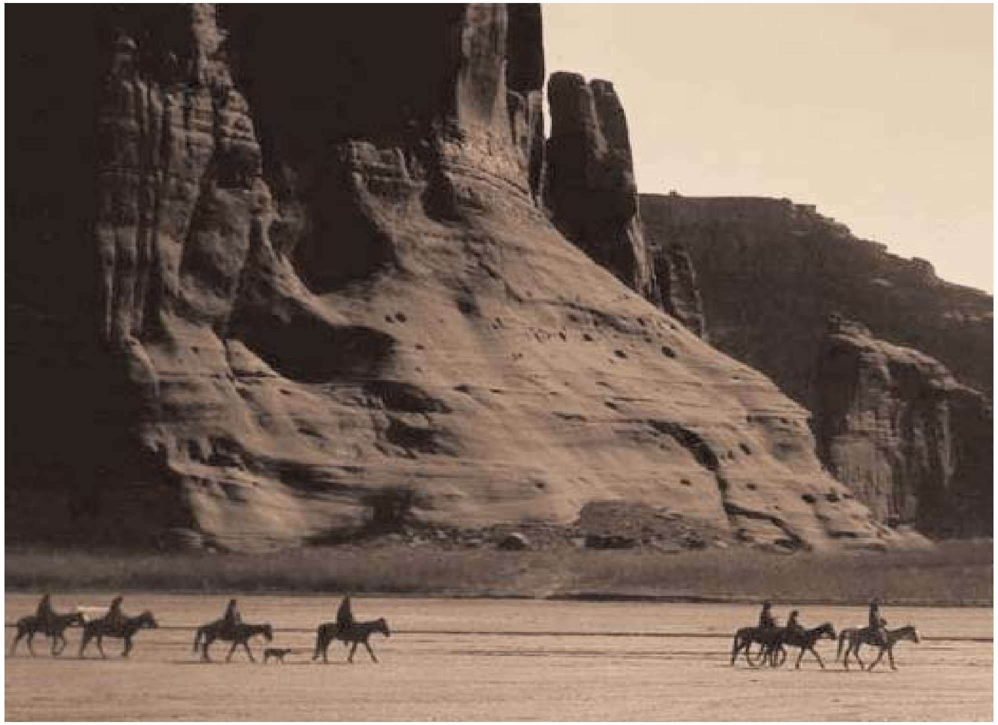
The resemblance between the Navajo and other Apache peoples is found in the absence of a centralized tribal or political organization. In the past, the Navajo were grouped into small bands whose members were related, with local chiefs at their head. Today, we find local groups of the same kind but which are formed from the place of residence and no longer according to kinship.

The painted pottery and famous Navajo rugs are the result of contact with the Pueblo. It is the same for certain rites such as sand paintings. Silverwork, which is also famous for Navajo craftsmanship, dates from the mid-19th century. It was probably the Mexican silversmiths who taught it to them.

UTES

Shoshone-speaking Indians, the Utes lived in western Colorado and eastern Utah, the state to which they gave their name. When the Spanish father Silvestre Vélez de Escalante crossed their territory in 1776, while looking for a passage from Santa Fe (in present-day New Mexico) to the California missions, the Utes did not own any horses. They lived in small family groups which fed on the products of the gathering. At that time, there was no real distinction between the Utes and the Southern Paiutes who all spoke Ute, a language that is part of the southern branch of the Numic languages.

After acquiring horses in the early 19th century, the Utes of western Colorado, and later those of northern Utah, organized themselves into hunting bands; however, they were not organized very strictly. When this region was colonized by Europeans, these bands specialized in the theft of cattle. However, in the southern parts of Utah, Nevada and California, the Utes and Chemehuevi continued to move on foot and allied themselves with the Southern Paiutes.



PUEBLO, ethnicity

Descendants of the Mogollon and Anasazi, peoples who lived before the Conquest, the Pueblo are a group of peoples who occupy different parts of northeastern Arizona and northwestern New Mexico. In the 2000 census, they were 74,000, of which 62 % were. 100 in New Mexico and 17 p. 100 in Arizona. They live in permanent villages, with tightly packed houses, known as pueblos (from the Spanish pueblo, "village" or "town"). This name was given to them by the first Spanish settlers in the sixteenth century to distinguish them from nomadic Indians. Before settling in their current villages, the Pueblo had lived in towns whose remains (troglodyte towns in the sheer cliffs or large cities in the valleys) still testify that their architecture was already quite elaborate. These towns date from the fourteenth century, the height of Pueblo culture.

The cultural and linguistic diversity that exists between the Pueblo of the different regions existed long before the conquest. From a linguistic point of view, there are four language families: Hopi, Zuñi, Keres, Tanoan.

The Pueblo are first and foremost farmers, but the type of farming and the meaning of ownership vary greatly from region to region. Towards the Rio Grande, the Indians cultivate corn and cotton by irrigating fields in the river valleys. They used to have companies that specialized in deer and antelope hunting in the mountains. Some Eastern Pueblo, like the Taos and Picuris, hunted bison in the plains. The Pueblo practiced rabbit hunting, spreading out in whole villages; the women collected wild plants. Among the Pueblo of the West, especially among the Hopi (the most numerous group with 11,100 people in 2000), agriculture presented more risks, because the climate was drier.

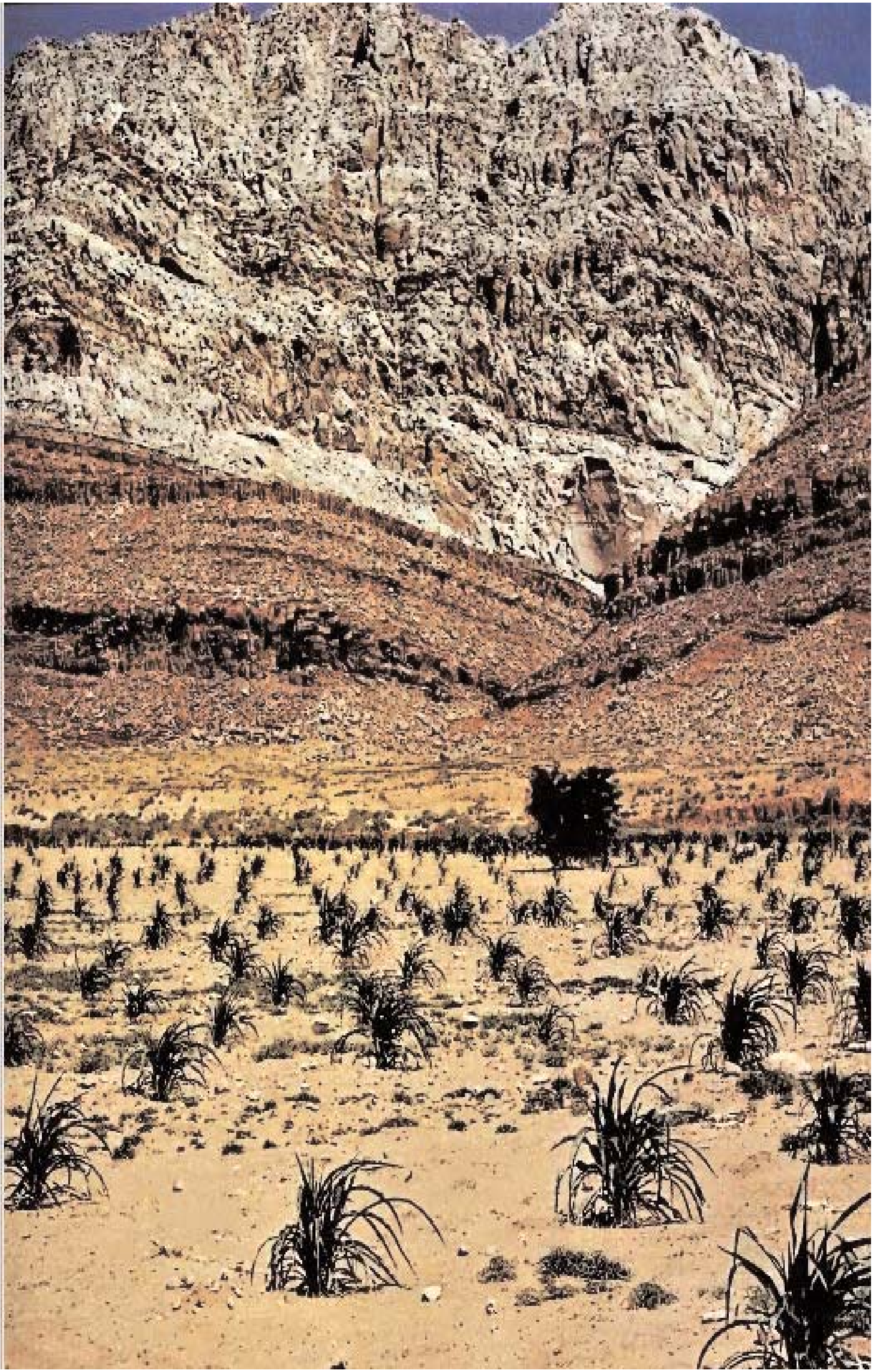
HOPI

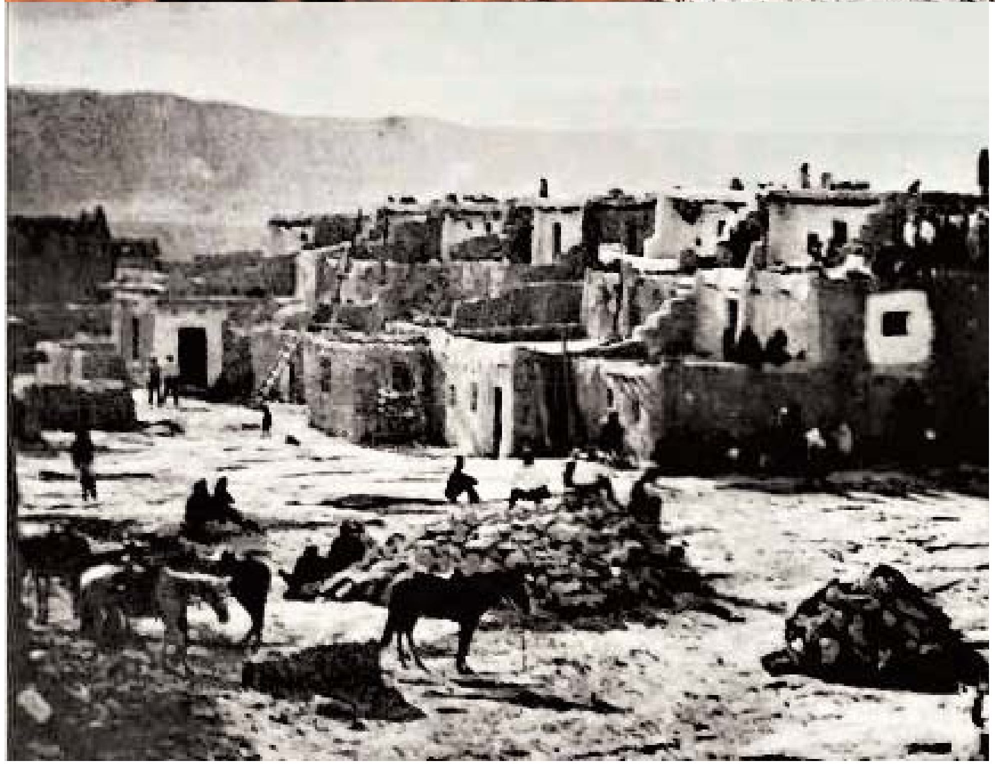
The westernmost group of the Pueblo Indians, the Hopi live on the plateaus of northeastern Arizona, in the middle of the Navajo reservation and on the edge of the Painted Desert. The Hopi, also improperly called Moki and who call themselves Hopituh Shi-nu-mu ("the Peaceful People"), speak a Shoshone language of the Uto-Aztec family. In the 2000 census, there were 6,946 Hopi. The pueblo-type terraced dwellings are made of stone and adobe, and are tightly packed together.

We do not know precisely the origin of the Hopi nor that of their organization into independent communities. Their origin myths say that their ancestors made their way through four underground chambers called kiva and lived in different places before reaching their current territory. The Hopi are subdivided into several clans, grouped into exogamic moieties. Their economy is based on agriculture (corn, beans, squash, in particular) and on sheep farming. The offspring is matrilineal and the home is matrilocal. The kiva serve as a meeting place for them; there they weave, paint, smoke and pray.

Like all other Pueblo Indians, the Hopi are peaceful and very religious. Boys begin their ceremonial course at the age of six, during their initiation into the katchina (kachina) worship. Hopi katchina are masked representations of a variety of gods, spirits, dead ancestors, and clouds. The kachina inflict the ritual whip on the young boys and then reveal to them that they are not supernatural beings, but village men in disguise. The Hopi year is regulated by different festivals. The most important is the dance of the serpent which brings rain.

As soon as their life in an isolated society ended, the Hopi Indians were caught in a process of rapid cultural upheaval which broke up their traditional society.





Oraibi (Arizona), 1000 CE-present

The ancient villages of Walpi and Old Oraibi, located on desolate finger-shaped mesas on the Hopi Reservation in northeastern Arizona, were established in the mid-12th century. At the top of Third Mesa (the westernmost) is Old Oraibi, the only ancient Hopi village to remain in its original location. (Old Oraibi is not to be confused with New Oraibi, or Kykotsmovi, the tribal seat of government located to the east and lower elevation on Third Mesa.) The village of Walpi, located on First Mesa (the easternmost), was rebuilt to a higher elevation around 1692. Both villages are still inhabited, and Old Oraibi rivals New Mexico's Acoma Pueblo as the longest continuously occupied settlement in what is now the United States. Old Oraibi, once considered the "capital" of the Hopi nation, was designated a national historic monument in 1964. Spanish settler Antonio de Espejo recorded his first encounter with Oraibi in 1583, describing him as the most important and most important Hopi pueblo. the largest in the region, with a population of 14,000. A letter written by Father Vélez de Escalante in 1775 declared that 800 families lived in eleven large buildings. In 1882, when the federal government created the Hopi reserve, Oraibi was one of the largest Hopi pueblos, with 150 houses. At the turn of the century, a schism developed in the pueblo between the traditionalists, who wanted to sever all ties with foreigners, and the liberals who were open to other cultural influences. In September 1906, during an event known as Oraibi Split, half of the population (the traditionalists) left Oraibi for good and created three new villages on Third Mesa. Since then, the population of Oraibi has remained stagnant and the pueblo is partially deserted. Today, most of the original houses are vacant and those in the southeast quadrant are falling apart. The remaining inhabitants live in the north-western part of the village.

The pueblo consists of seven rows of detached houses facing north to south. Usually oriented to the east, the blocks of rooms are staggered in height and rise three to four stories above mesa ground on their western elevations. Each row contains two or three adjoining rectangular rooms and is separated from the next row by the space of a house. Narrow, unpaved roads (oriented north-south) divide the rows of houses. The foundations of disintegrated piece blocks mix with the rubbish heaps, making the terrain uneven. At the southern end of the mesa are the remains of a Mennonite church built in 1901 and destroyed by lightning in 1942.

In the late 13th and early 14th centuries, Hopi villages were planned in terms of defense: blocks of rooms were built at right angles to interior squares. This configuration was preserved over the following centuries. The blocks of rooms are constructed of local sandstone and adobe with wooden beams, and a few feature interior courtyards with multiple entrances. Rectangular kivas, partially underground religious structures, are located in enclosed courtyards along the edge of the mesa in the southeast corner of the settlement. By the end of the 19th century, Oraibi had thirteen kivas, more than any other Hopi pueblo, each associated with a specific village clan. The small scale of the new block houses helps blend modern construction with the historic built environment. Infrastructure added in the 20th century, including water, sewers,

The Spanish domination of the Hopi pueblos in this region did not take root until 1629, when three missions were established, including the mission from San Francisco to Oraibi. This building was burnt down during the uprising of 1689, when the Hopi expelled the Spanish priests in all the villages. In 1700, Chiefs Oraibi and Walpi led a raid on the Hopi village Awatovi and managed to drive out Spanish and foreign influences in Oraibi for nearly two centuries. It was around this time that Walpi, once located halfway up a mesa on a rock terrace, was moved to the top of First Mesa, to defend against Spanish retaliation.

Walpi, or "the place of the notch", now sits on a narrow projection (150 feet at its widest span) at the southern end of the mesa, which falls steeply on three sides towards the painted desert shown below. below. Regarded as the matriarchal village of First Mesa, Walpi features three-story houses built from stones and beams salvaged from the original settlement at the terrace level and older abandoned structures. Pine beams and juniper posts cut and dragged from the San Francisco peaks span mud-covered sandstone walls. Interior walls are finished with light hand-applied plaster or with wool pads to create a scallop texture. Chimney vents pierce the flat roofs and all other openings, including windows and doors, have been kept small. Walpi contains five sunken kivas along the edge of the mesa. These were restored and plastered again in 1975.

The Hopi people still live in their homeland and are known to have two of the oldest continuously inhabited villages.

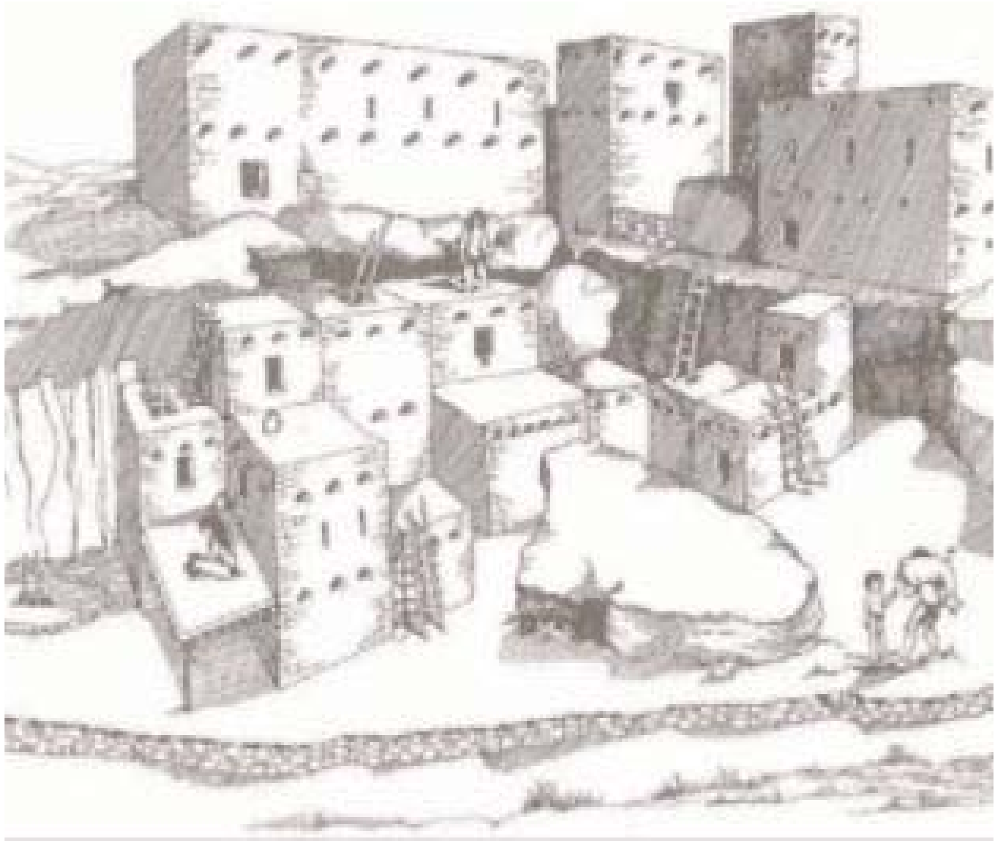
Edward S. Curtis, c1906

tWalpi Village and Oraibi - which date back to the 11th century AD. The Hopi lived in traditional pueblo-style houses perched on the mesas to protect themselves from enemies. The Hopi people are deeply rooted in their religion and spirituality, following the traditional customs of their ancestors to this day. These traditions were important enough that, despite their peaceful ways, the Hopi people stood firm when other societies stepped in to "educate" them and change their ways.

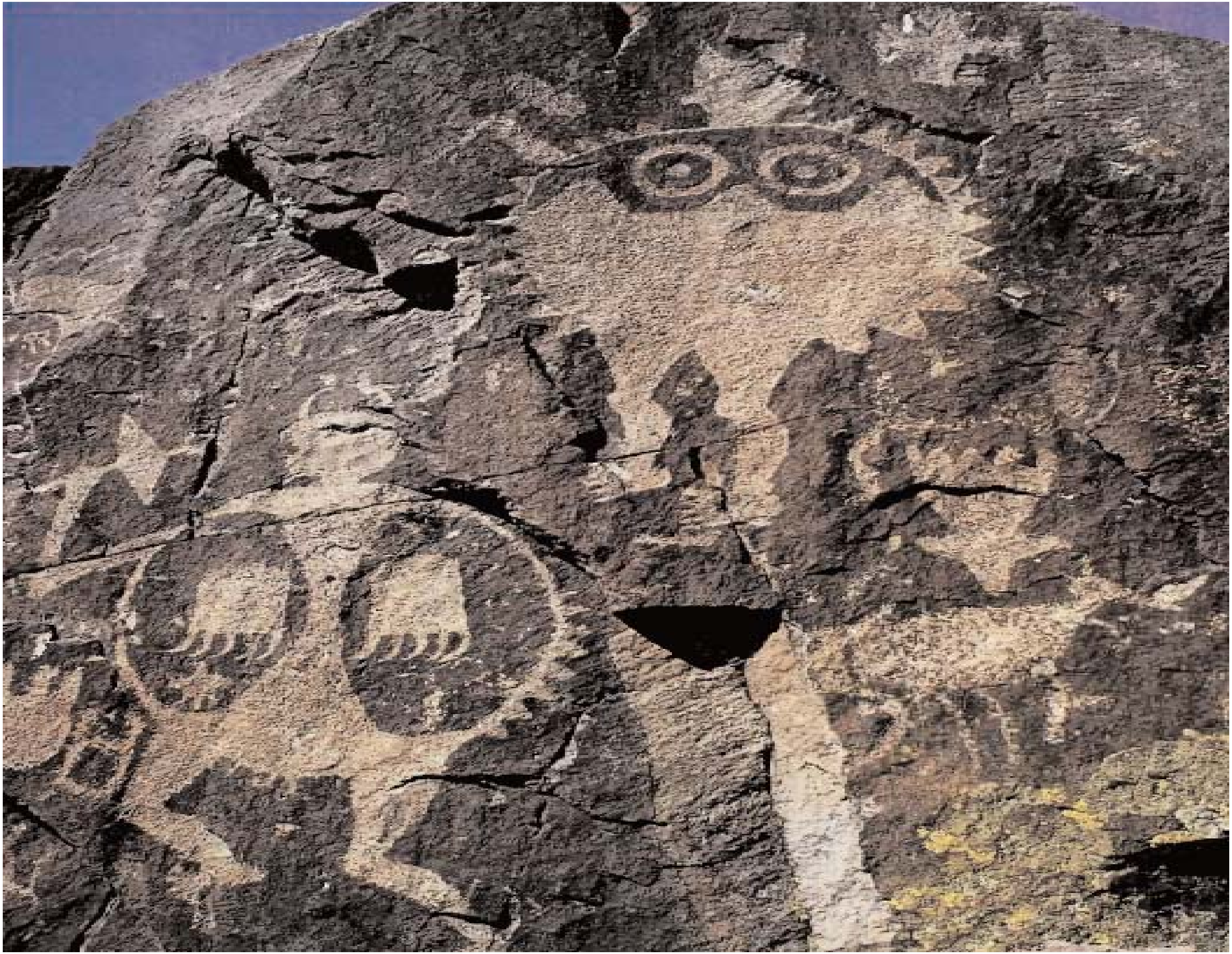
The members of the tribe still speak the Hopi language, which is one of the 30 Uto-Aztec languages. Each village has qualified craftsmen among them. First Mesa has potters, sculptors and artists. Second Mesa has basket makers, jewelry makers and kachina doll sculptors. Third Mesa has skilled textile weavers and villagers. Also known for their ability to travel long distances very quickly, the Hopi people have historically run to hunt game and send messages to neighboring villages. Today they run for spiritual and physical purposes. A Hopi would have traveled 72 miles in 36 hours. A famous runner was Louis Tewanima. He won the silver medal in the 10,000 meters at the 1912 Olympics.

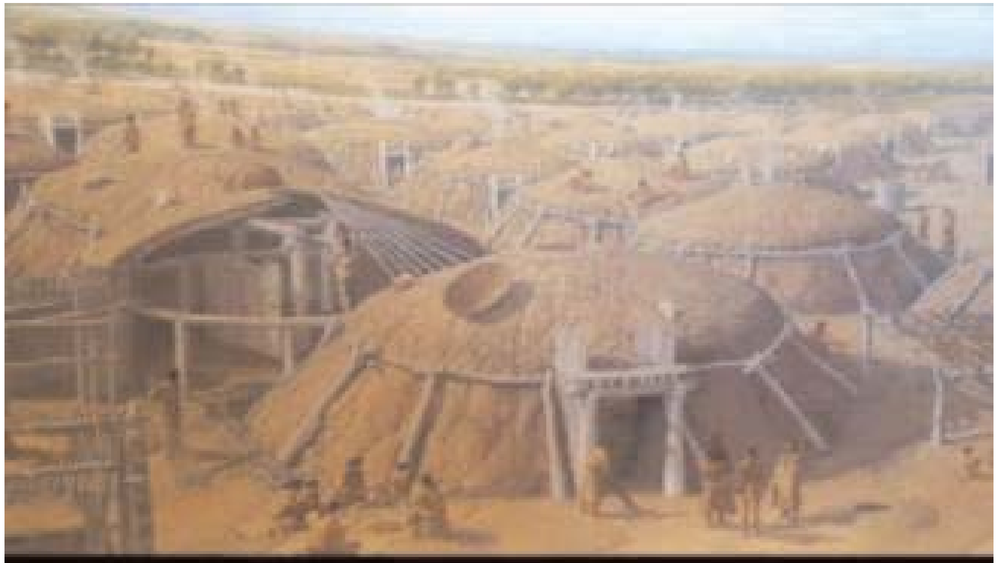
A bit of history: The Hopi are also known around the world for their prophecy. Their Blue Stardit prophecy that the third world war will be started in the old countries (India, China, Islamic nations, Africa). War will be a spiritual conflict with material matters. The lands and peoples of America will be destroyed by atomic bombs and radioactivity. Only the Hopi lands will be preserved as an oasis for refugees. Material matters will be destroyed by spiritual beings, who will then create a world and a nation under one power: the Creator.

When a Kachina takes off his mask and dances in the plaza in front of uninitiated children (the general public), he represents a blue star, distant yet invisible, which will appear soon after. This period was heralded in chants during ceremonies, first in 1914 just before World War I and then again in 1940 before World War II. Disunity, corruption, and the hatred that contaminates Hopi rituals would be a sign of the same evils that are spreading around the world. The song was sung again in 1961. When "the blue star" arrives, it is said that for a while there will be no more ceremonies or faith. But Oraibi will be rejuvenated with his faith and ceremonies, marking the start of a new Hopi cycle of life.

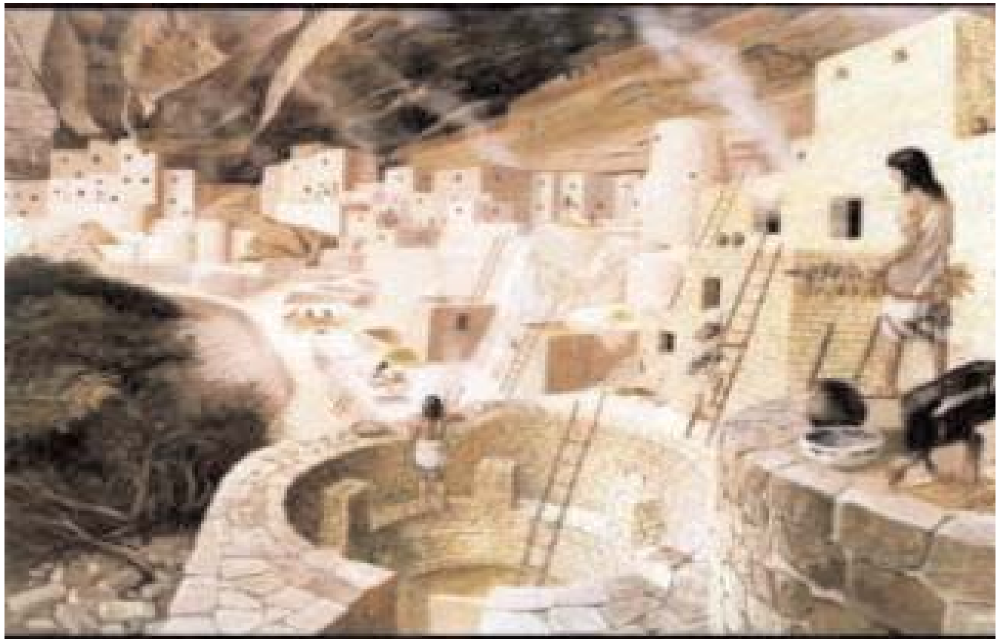


Hovenweep (Utah), 900-1350 CE

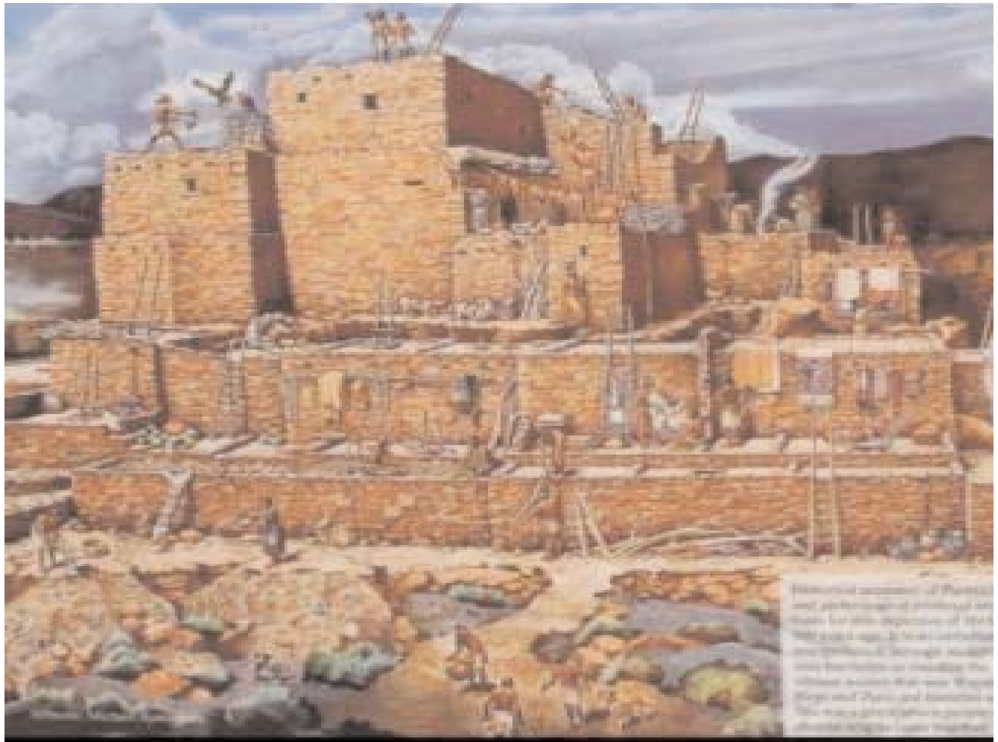




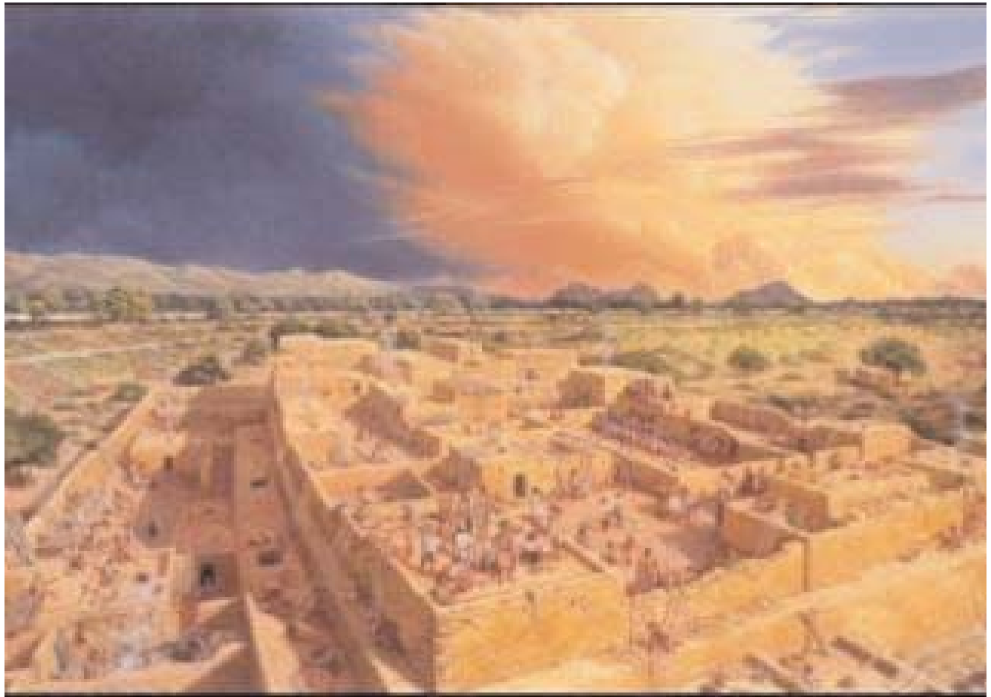
On-A-Slant Village (North Dakota), 1550-1780 C



Cliff Palace (Colorado), 1190-1260 CE



Wupatki (Arizona), 500-1225 CE



Pueblo Grande (Arizona), 450-1450 CE

Mesa verde

There are 9500 years before our era, Paleo-Indian nomads arrived in the region, following herds of big game. Although they have only lived in the region seasonally, global warming has allowed their population to grow.

From the Archaic period around 6000 BCE, there was a permanent population in Mesa Verde, living in mud and timber houses. They had a vast trading network that stretched as far as the Pacific Ocean.

The Basketmaker culture, which began around 1000 BCE, brought permanent pits as the Basketmaker IIs began to feed and cultivate - relying less on wild food sources and more on crops than they cultivated and cultivated themselves.

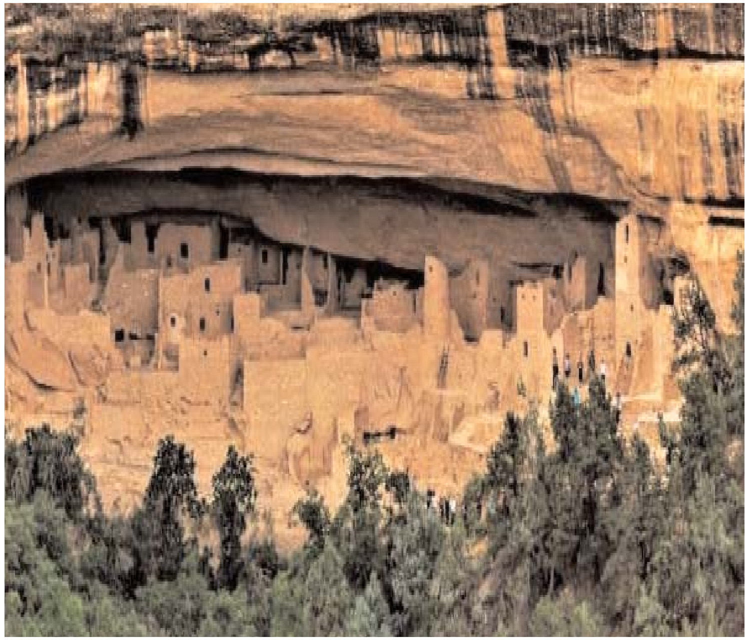
Around 2000 years ago, the river valleys in this region were occupied by nomadic Indians who later adopted a sedentary life. In the 6th century, for reasons still unknown, they returned to the densely wooded plateau and its gorges, where they found fertile soils and a good supply of water. The site was abandoned in the 14th century.

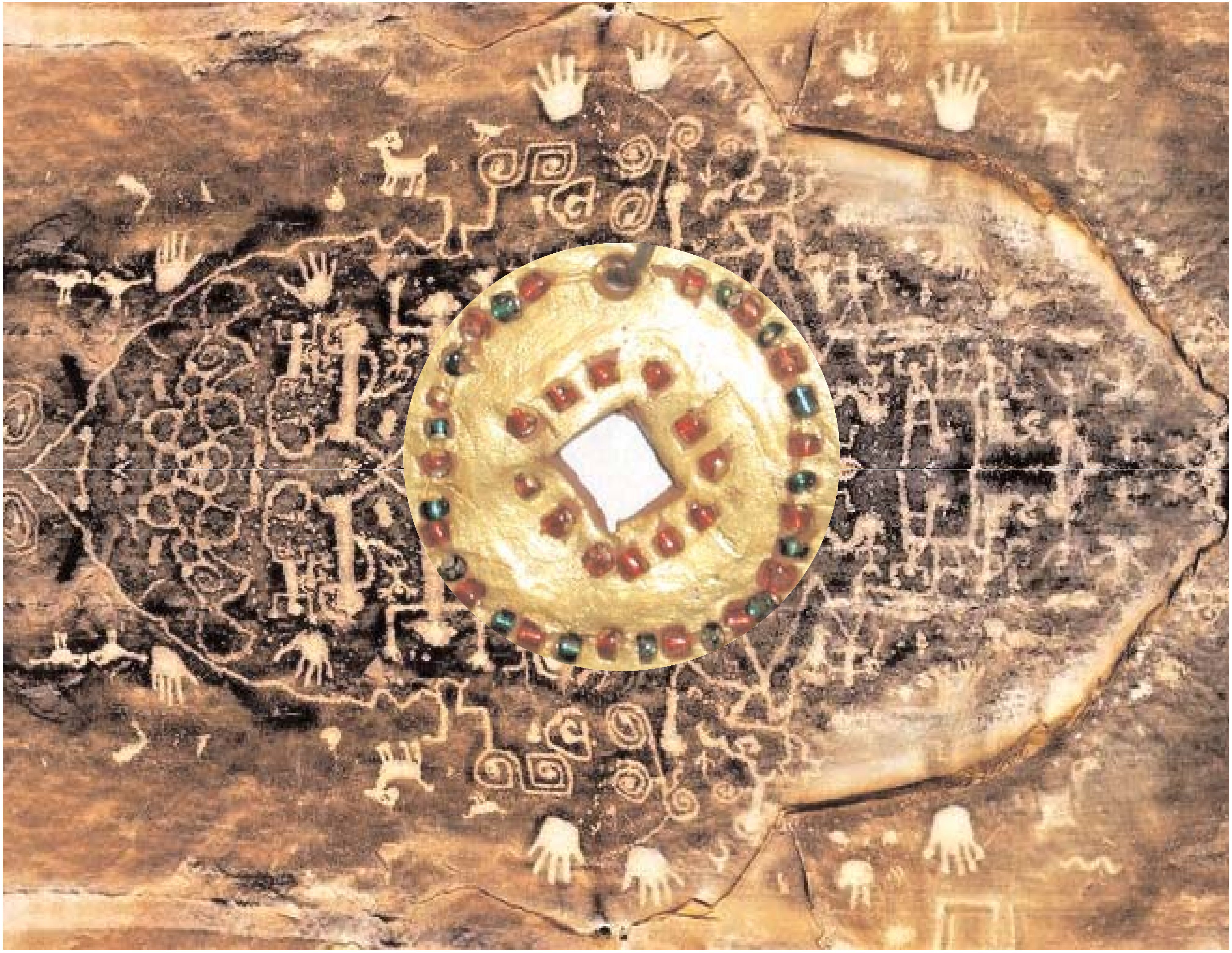
The well-preserved remains of Mesa Verde consist of rock dwellings of the Anasazi Indians. These include pit houses on the plateau and dwellings on the cliffs on the sides of canyons, multi-story adobe or stone houses built around a central plaza (pueblos), and sites of worship. (kivas).

Towards the end of the Basketry Era, around 700 CE, the population of Mesa Verde may have grown to 1,500. They had brought in beans and corn and were building large buildings above ground.

The year 750 CE is generally considered to be the start of the Pueblo period - a period that lasted until around 1300 CE when Mesa Verde was abandoned. During this time, they built pueblos and kivas, increasing both their food storage capacity and their own population density.

The architecture of Mesa Verde was heavily influenced by the Chacoan system (native to Chaco Canyon to the south) - with Chaco-style masonry buildings like Far View House appearing around the 11th century CE. had a profound impact on architecture from the 13th century AD. It was around this time that some of Mesa Verde's most elaborate buildings were constructed - massive multi-story structures such as Cliff Palace, the tallest of them all.





DAKOTA, Indian

Confederation of North American tribes whose name means "allies" and who were named Sioux by reducing the translation of the Ojibwa name Nadouessioux. There are three main groups in Dakota, which are distinguished by their dialect and history. The Santee or East Dakota (their descendants numbered 16,000 in 2004), whom the other tribes called Dakota, formed the first of these and included the Mdewkanton, Wahpeton, Wahpekute and Sisseton: established before 1650 in the Lake Superior region, they lived by collecting wild rice and beans, hunting deer and bison, and the products of spear fishing from canoes; at war with the Ojibwa, they had to emigrate to the south and west of present-day Minnesota.

Second group, the Yanktons (numbering 7,200 in 2004), called Nakota by the other Dakota Indians, were divided into Yankton proper and Yanktonai; like the third group, the Teton (nearly 76,000 in 2004), they were driven out of Minnesota and settled in present-day Dakota; they adopted the way of life of the Plains Indians (their neighbors were the Crow, the Cheyenne, the Ponca and the Omaha) and abandoned their traditional agriculture and pottery crafts. Established most to the west and in contact with the Crow, the Cheyenne and the Arikara, the Teton, also called Lakota, were divided into seven bands: Sihasapa or Pieds-Noirs, Brûlé, Hunkpapa, Miniconjou, Oglala, Sans-Arcs and Two-Kettle or Oohenonpa.

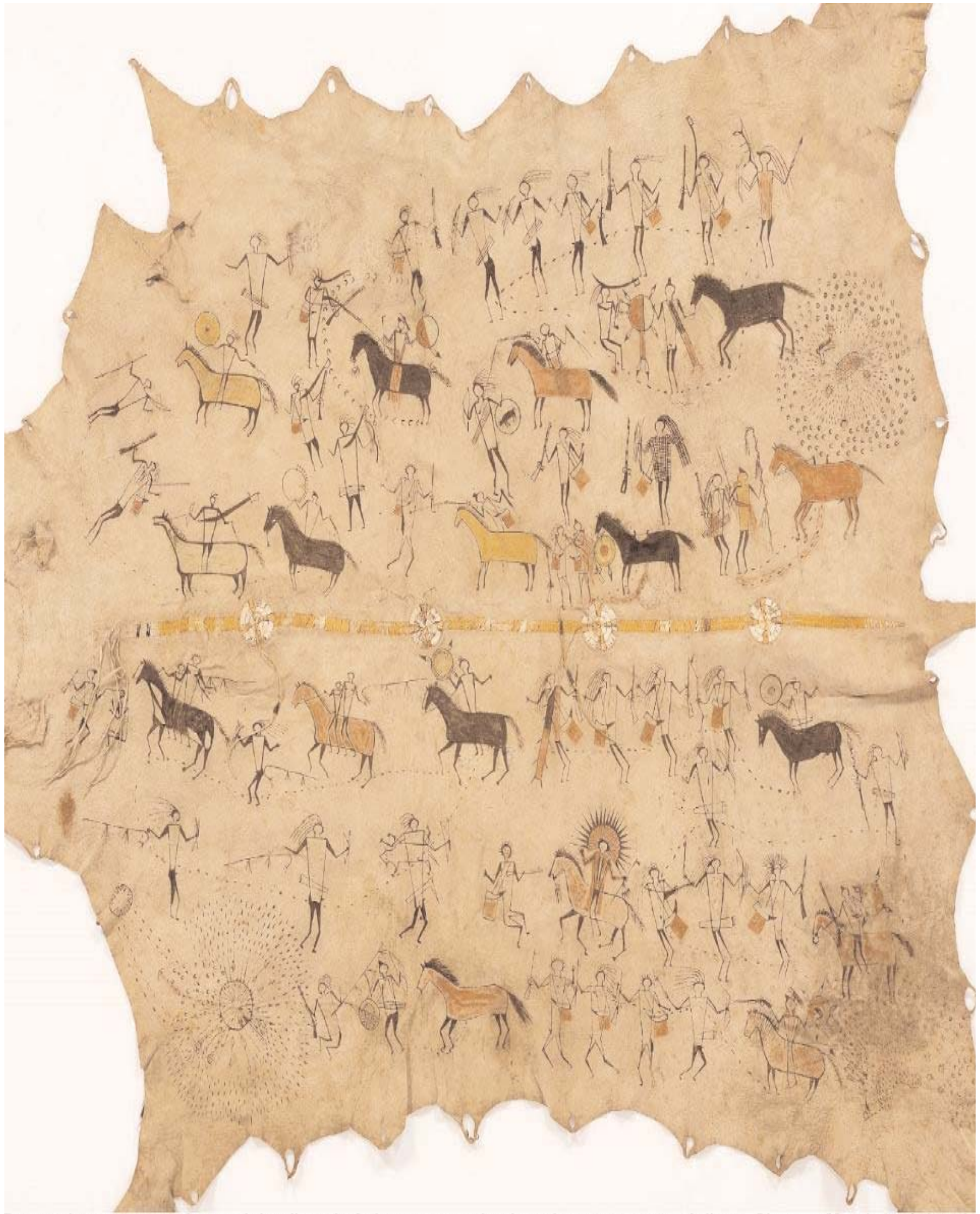
Culturally close to other Plains Indians, the Dakota lived in tipi (the word is in their language); as in neighboring ethnic groups, warlike exploits, such as the taking of horses or scalps, conferred prestige and social status on their authors. War and the supernatural were closely related: if an Indian saw certain designs during a vision, he painted them on his shield for protection.

SIOUX

Indians of the plains of North America, the Sioux (name of derogatory origin grouping together three tribes which call themselves Dakota, Lakota and Nakota) all belong to the Sioux linguistic family, which includes: the Assiniboin, the Crow, the Dakota, Hidatsa, Iowa, Kansa, Mandan, Missouri, Omaha, Osage, Oto and Ponca. The Sioux were first and foremost buffalo hunters. Some tribes in the east and south grew corn and harvested wild rice. Before the introduction of the horse in 1740, which transformed their lives, the Sioux used to move their camp of dogs harnessed to travois.

The band, made up of several lineages, formed the basic social unit; she lived under the direction of a hereditary or elected chief, assisted by a council of elders. When the bands met on certain occasions, the tipis were set up in a circle around the council tent. Political organization was never centralized; on the other hand, there was often a police force made up of members of military and ritual societies. The importance of a man was measured by his warlike exploits. You had to command a war expedition, steal a horse from an enemy camp, kill an enemy or, better yet, disarm or give it a blow. To remember their exploits, the Sioux used pictographs that they drew on buffalo dresses or on their tipi.

Like that of the other Plains Indians, the essence of the religious life of the Sioux consisted of finding a supernatural protector. To do this, the young people had to fast and pray and even inflict torture on themselves in a lonely place in order to obtain a vision. In general, the initiate kept an object which served as a talisman. The Sun Dance was their most important ceremony. This was suppressed in 1881 by the Whites because of "its inhuman aspects".



Peau peinte racontant les exploits d'un chef sioux ou mandan lors de guerres entre Arikara, Sioux et Mandan, région de Plaines. Cape d'apparat, vers 1800-1830, région des Plaines. Le travail des peaux est réservé aux femmes. La peau de bison était tendue puis raclée. Avant d'être tannée, enduite, et peinte avec des pigments. Les motifs rappellent les peintures rupestres.

Source : http://philippebourgoinarttribal.com/2014/05/07/indiens-des-plaines/

The southwest

A region of arid deserts, green river valleys, and tall, steep snowcapped mountains, the Southwest is largely bounded by the present-day states of New Mexico and Arizona, as well as the northern regions of Mexico. with small extensions in Texas, Utah and Colorado. We can distinguish four major tribal groups: the Pueblos, the Navajo, the Apaches and the cultivators of the desert.

Tribes

Although there are clear traces of human habitation dating back at

least 12,000 years, it is in the 1st century BC. AD Mesaverde that appears the Anasazi civilization, which was the first to build these fabulous "pueblos", labyrinthine villages of cubic houses nested and embedded in vast caves. In the 13th century, the Anasazis absorbed the culture of the Mogollons. They perpetuate the craftsmanship of these first tribes, especially pottery and weaving, but also mosaics and sculptures. The culture of known peoples did not fully flourish until around the year 900 AD. At this date these tribes, the "Pueblos", the "Pimas", the "Papagos", the "Hopis", and the "Zuñis", - who were the descendants of the ancient Anasazis (Navajo name meaning "Old People"), of Hohokam and Mogollon ethnicities - shared the same culture to varying degrees. For example, they cultivated beans, squash, various-colored corn, cotton and tobacco, faced with aridity they resumed the irrigation techniques of their predecessors (Anasazi, Hohokam and Mogollons), and the breeding of turkeys. . They produced beautiful twisted, polished and painted pottery, while their costume consisted of blankets and other clothing that were woven on tall vertical looms. They also abandoned their first style of cave dwellings and semi-buried houses (to escape the overwhelming heat), the Pueblos building vast communal dwellings in adobe plastered stone, while the Pimas erected buildings in the form of a stone. dome and thatched, made of poles, brush and earth, the door of which was always facing east.

Around 1400, other peoples arrived from the north. These peoples, of Athabaskan linguistic origin, are today known under the names of Navajo and Apaches. A whole string of pueblos along the Rio Grande valley were abandoned because of the fear inspired by the Navajo and the Apaches, who gradually infiltrated towards the southwest, where they became semi-nomadic. The Navajo lived mainly in hogans covered with earth, while the Apaches took shelter under wuckiups, a kind of brush arbors often covered with thatch of bear grass. These latter arrivals adopted much of the culture of the Southwest, but with the acquisition of sheep, introduced by the Spaniards, the Navajo soon replaced cotton with wool. They became experienced blanket weavers and later, in the 1850s, were introduced by Mexicans to the art of working silver, which they associated with the turquoises of the region.

to create highly coveted fine jewelry. The Southwestern Navajo Indian Reservation is currently located in northeastern Arizona, and is now the largest in the United States.

As for the Apaches, excellent and formidable warriors, nomads, they fought against the Navajo and hunted. The Apaches were one of the tribes to resist the American invasion the most before being finally defeated.

The Grand Bassin

As one descends towards the south, the Plateau meets the Great Basin, the magnitude and importance of the rivers gradually diminish and in the regions now called Utah and Nevada, the "Mugwort Country", the deserts of grasses and scrub dominate. Colorado traverses this territory from north to south before reaching the depths of the Grand Canyon.

South in Utah and Nevada,

This is where the Great Salt Lake, the Grand Canyon of Colorado and the Valley of Death are located. These names do not evoke a land of plenty or a land of plenty. The horse allowed rapid movements, facilitated the buffalo hunt and the exchanges between the tribes. The Cheyennes transformed their traditional wigwam to make it the famous tipi, which it was enough to dismantle and to make pull by a horse on a travois to move. With the arrival of the horse, many peoples abandoned agriculture to engage in buffalo hunting. The horse was the best thing that happened to the Plains Indians of that time.

The purely nomadic tribes like the Black-Foot, the Sioux (Lakotas) and the Comanches well provided with horses, traversed the Plains in the pursuit of the bison and the deer which allowed them to eat, to dress (leather moccasins) and to stay in tipis. Other tribes, such as the Mandans, Other tribes, such as the Mandans, Pawnees and Omahas lived in what are called earthen "lodges", and did use the tipi that during hunting expeditions in the Plains. These peoples have been classified as the richest Indians in America, with wealth being assessed by the amount of food available - buffalo meat, vegetables, and wild berries, for example.

Mythology

In this society, men implored the Spirits associated with both animals and Heaven, of which the Sun was the supreme power, even though the Morning and Evening Stars were of particular importance to the Cheyenne and the Pawnee respectively.

All believed in the existence of a force which penetrated the whole of nature and could grant to make man, animal or plant overflowing with powers. Plains ceremonies were invariably described in terms of mythological accounts. These myths often referred to the origin of man and the earth, heroes and topography. These myths were often enacted in complex ceremonies, so that they remained virtually unchanged or over successive generations.

Faced with the inexorable advance of the white pioneers, the Plains tribes were forced to wage incessant wars, which did not prevent the colonization of their territory. After the defeat of the Indians and the extermination of the bison, the Plains saw the arrival of huge herds of cows and then sheep.

SOUTH-EAST AMERINDIAN PEOPLES

At that time, the southeastern United States was populated by nomadic Paleoindian groups who settled down after the last ice age. Paleoindians or Paleo-Americans lived in America at the end of the Pleistocene epoch, during the last prehistoric period of the Middle Paleolithic, and during the Upper Paleolithic. Recent discoveries allow to say that they also knew the last glaciation as well as the beginning of the prehistoric period of the Neolithic to the time of the Holocene.

The subtropical climate makes it possible to grow corn, potatoes and squash but also to harvest sweet potatoes, bananas and sugar cane. They also cultivated medicinal plants and tobacco.

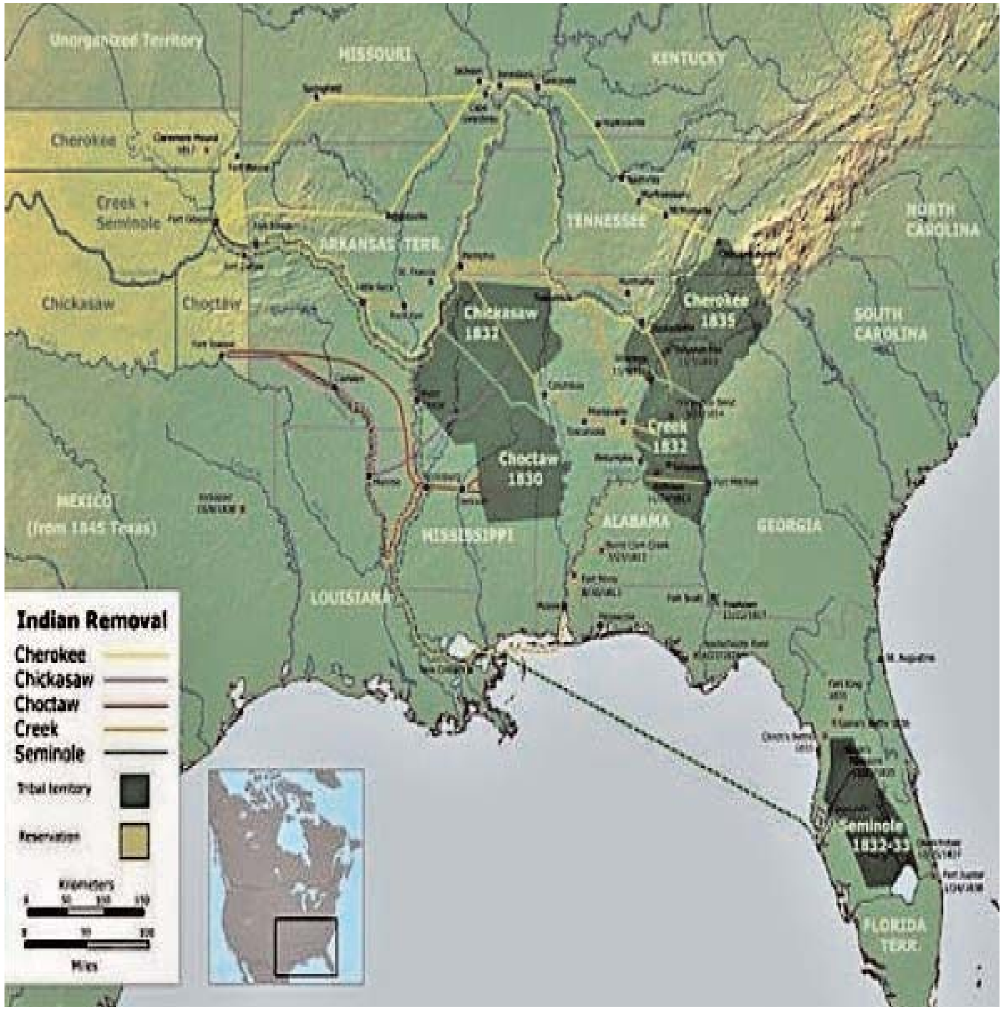
The names given to the months of the year by some Indians (deer, bear, turkey… strawberries, corn, melon, wild rice) suggest that there was a diversity of game and plant species within their reach.

Areas located in southern Ohio and around the Gulf of Mexico benefit from an environment favorable to agriculture and abundant wildlife.

The houses adopt a rectangular plan, are plastered with clay in summer. In winter, half-buried conical huts serve as shelter. In the southernmost regions, Native Americans live almost naked in light huts covered with palm trees.

Mythology

Like most of the hunting tribes, the Southeast Indians believed in many Animal and Plant Spirits which they believed embodied a mysterious force that permeated all of nature. Above reigned the Spirits of the air and the earth, themselves dominated by the one they called the Master of Breath. The harvests were accompanied by numerous ceremonies; the green corn dance was one of the most important and marked the end of the year.



CREEKS

It was the most powerful nation in the Southeastern United States.

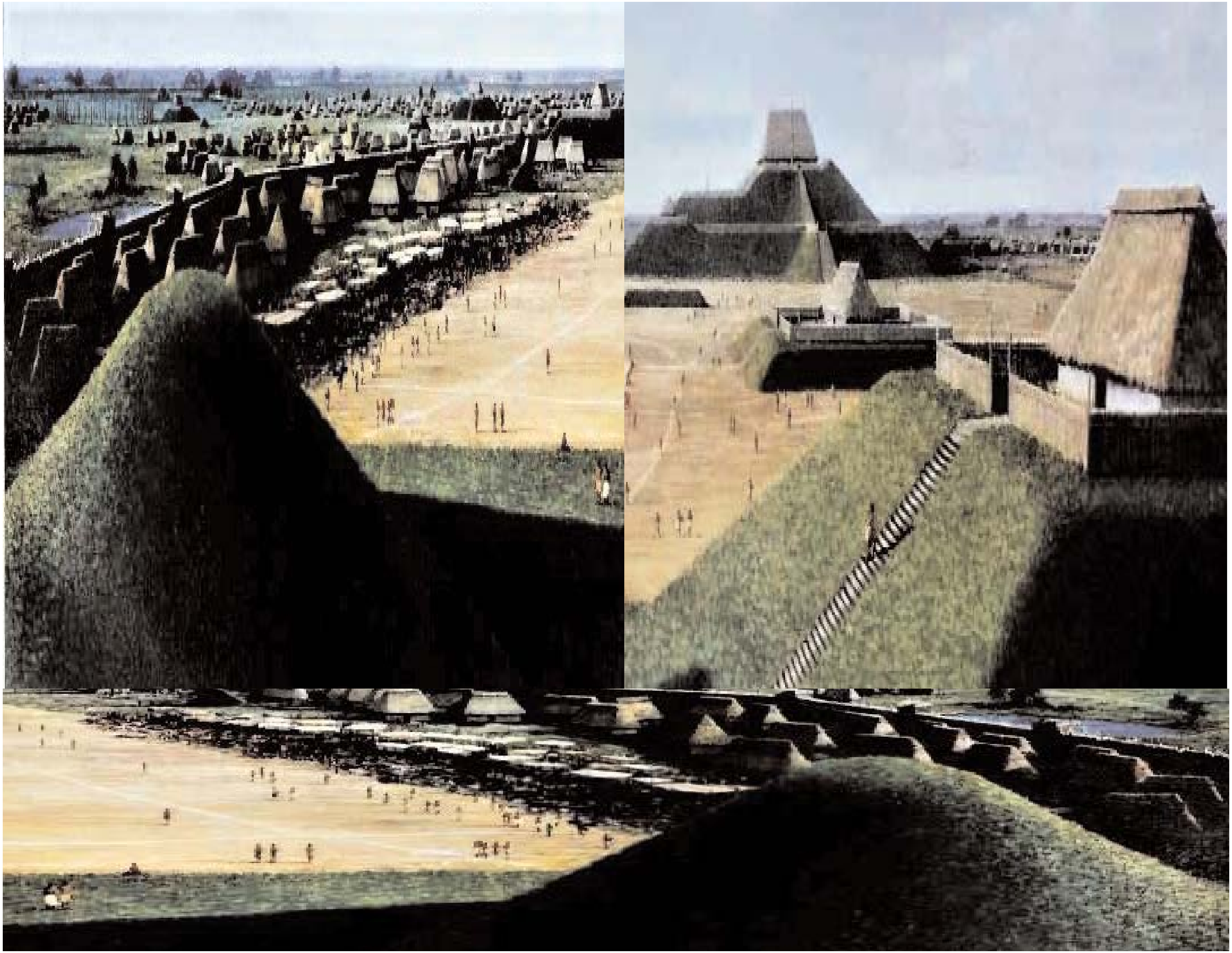
The creeks are part of the five so-called civilized tribes.

They are called muskogee or muscogee, which they write mvskoke.

Language: creek (mvskoke) from the Muskogean language family

They were divided into two groups: Georgia, Alabama

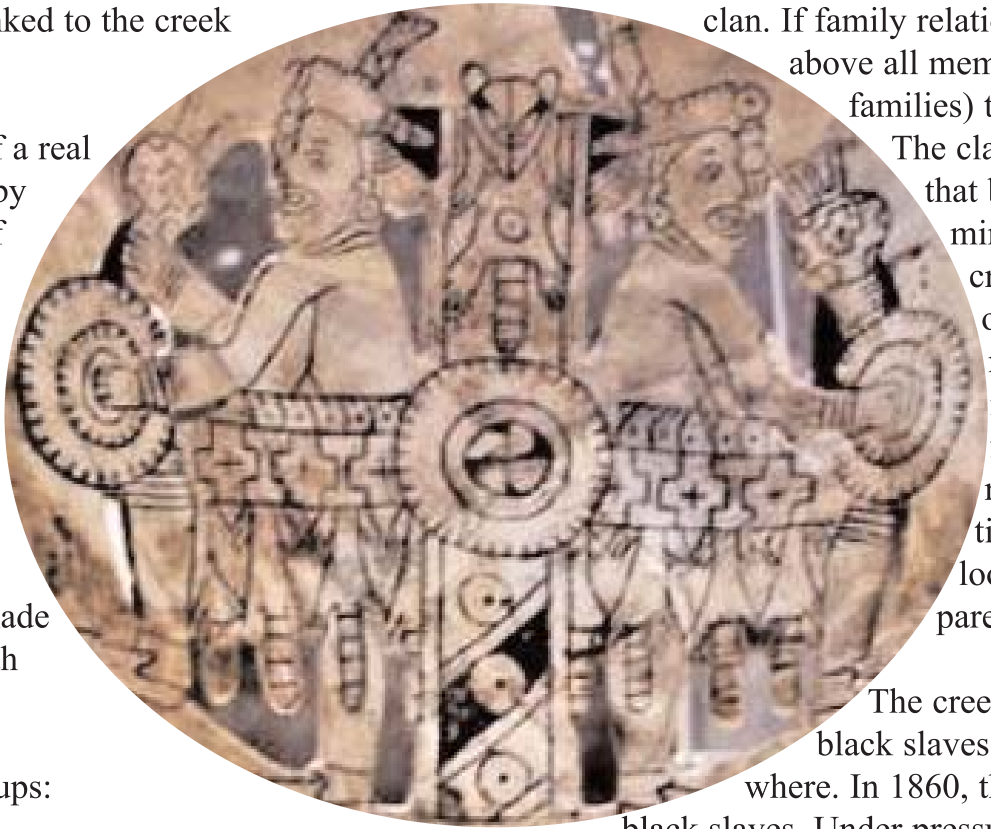
- The muskogee (upper creeks) north of the creek territory
- The lower creeks (hichiti and alabama), with the same traditions but with different dialects.



The Creeks are likely descendants of the mound builders of the Mississippi civilization, related to the Utinahica of southern Georgia. More of a loose confederacy than a single tribe, the Muscogees lived in self-governing villages in the river valley of present-day Georgia and Alabama. They were made up of many ethnic groups speaking several distinct languages. Those who lived along the Ocmulgee River were called "Creek" by British traders from South Carolina; subsequently the name was applied to all the natives of the region.

Way of life

The creek confederation called "Italva" was made up of about fifty towns with satellite villages, each town had its elected chiefs, the "micco", assisted by a council of elders. Tribes like the mobiles, the alabamas and the coushattas were linked to the creek confederacy.



The city had all the characteristics of a real city with its vast square surrounded by community buildings in the center of which a fire was constantly burning. There was a ball game where you could dance and perform. Each house was made up of small buildings: kitchen, meeting room, bedrooms, warehouse, all surrounding an interior courtyard and a vegetable garden cultivated by women. The houses were rectangular, the walls made of plaster, the gable roof covered with thatch.

The cities were divided into two groups:

- The white towns which were used for peace ceremonies
- The red towns which were used for war ceremonies

Some towns had a temple, a dome-shaped thatched-roof edifice built on a 2.5-meter-high mound.

Hunting and fishing were of less importance, agriculture once adopted. The men worked in the fields, even the chiefs outside times of war. Part of the harvest went to family warehouses, the rest being kept in collective granaries. The reserves were used to feed the warriors, the guests, the needy or in the event of famine. The fields were located around the city, they were communal: crops of corn, beans, squash, pumpkins, sweet potatoes, melons, sunflowers.

Maternal lineage and the role of the uncle

The Creeks were matrilineal: children belonged to their mother's clan. If family relationships were important, it was above all membership of a clan (an alliance of families) that determined an individual. The clans were matrilineal, that is to say that belonging to a clan was determined by the mother. And within a creek clan, for example, it was often the maternal uncle (the mother's brother) who played the role of guardian and role model for a male child. The creek men ruled villages, bartered and participated in wars. The women looked after the children and prepared the meals.

The creeks like other civilized tribes had black slaves that they took with them everywhere. In 1860, the population creek had 9.5% black slaves. Under pressure from its southern trading partners, the Grand Council issued its first code on slavery on May 8, 1859.

It was nevertheless more lax than those in the South. If the child from a Black and a Creek can claim citizenship, the union of a Creek and a Black is doomed. This nuance is explained by the primacy given to matrilineal filiation.

THE CEREMONIES

There were many of them, often related to agriculture. The Green Corn Festival was held in August for a future harvest promise in October. Ritual of renewal, everyone proceeded to clean and repair houses. Then after a period of youth there was a great feast where new corn and deer meat was tasted. The sacred fire was lit, each household coming to light its fire. Dances, ball games completed the party. Then the purification in the river ended this feast by making it possible to forget the quarrels and the offenses.

The existence of ranks was of great importance in social life. Rank was assigned based on merits (war prowess) or wisdom, but not birth.

Chief Mc Gillivray: in 1776 during the Cherokee revolt, some Creek warriors headed by Chief Mc Gillivray brought their help to the Cherokees led by Dragging Canoe and his "chickamuagas" They will resist until 1788. The US who conquered their country independence want to punish the creeks who did not support them against the English. With the help of a "treaty" signed in 1730 they seize the Creeks lands and the colonists settle there illegally. Mac Gillivray succeeds in peacefully expelling the colonists then he asks for protection against the invasion from George Washington who does not provide him and even sends an agent to spy on the creeks. McGillivray worked for the emergence of Creek nationalism and the centralization of Creek power by fighting against village chiefs who individually sold land to the United States.

CHEROKEE

Originally cultivators / hunters Their capital in the 18th century: Echota. It is here that the Grand Council of the Cherokee Nation meets. The villages surrounding the capital numbered around 60. Ethnologists estimate that there are between 5 and 7 million people who are descended from the Cherokees.

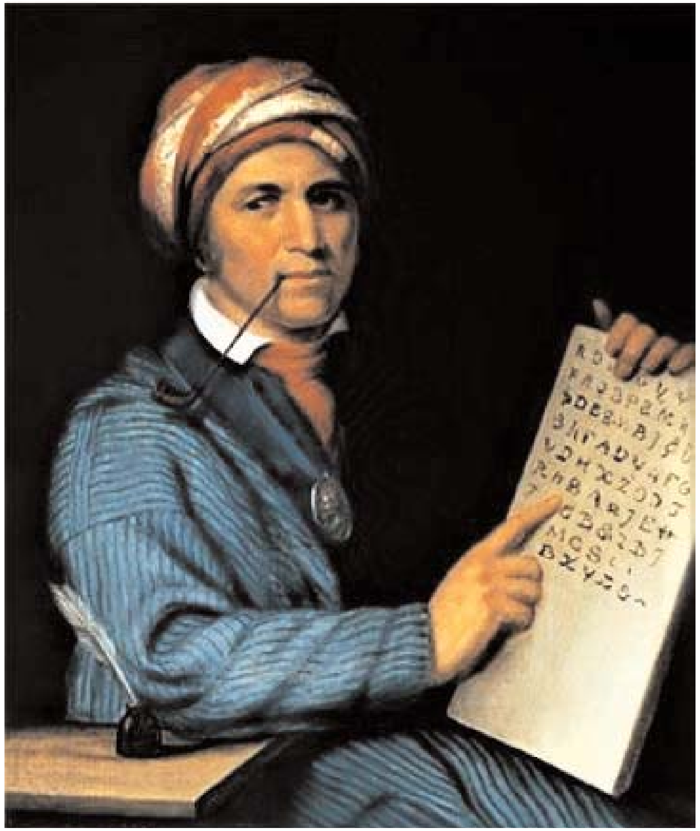
Their name in Cherokee language: ah-ni-uy-wi-ya
The name they give themselves: tsalagi
Language: Cherokee (Iroquoian language)

Each village is led by two chiefs:
- A white man who calls himself " the most beloved" and who can be a woman. He deals with civic affairs, justice and religious ceremonies
- A red that deals with issues related to war and the game of lacrosse.

A woman of war accompanied the warriors to give them assistance and advice and decide the fate of prisoners.

Society is organized into seven matrilineal clans divided into 12 war and peace groups. Some belonged to the half-peace group, others to the half-war group. The matrilineal family is a system of filiation in which each one belongs to the lineage of his mother. This means that the transmission, by inheritance, of property, surnames and titles passes through the female lineage.
When the first interbreeding occurred, children born to a union between Cherokee women and non-Indians were considered fully Cherokee and not half-blood unlike children born to a Cherokee father and a white woman. .
When a member of one clan was guilty of murdering a person from another clan, the law of blood demanded revenge (Iaw of bload revenge) to restore harmony between the clans.

Blood ties were strengthened by the Cherokee theory of procreation, according to which the woman provides blood and flesh to the fetus while the father through sperm builds the skeleton.



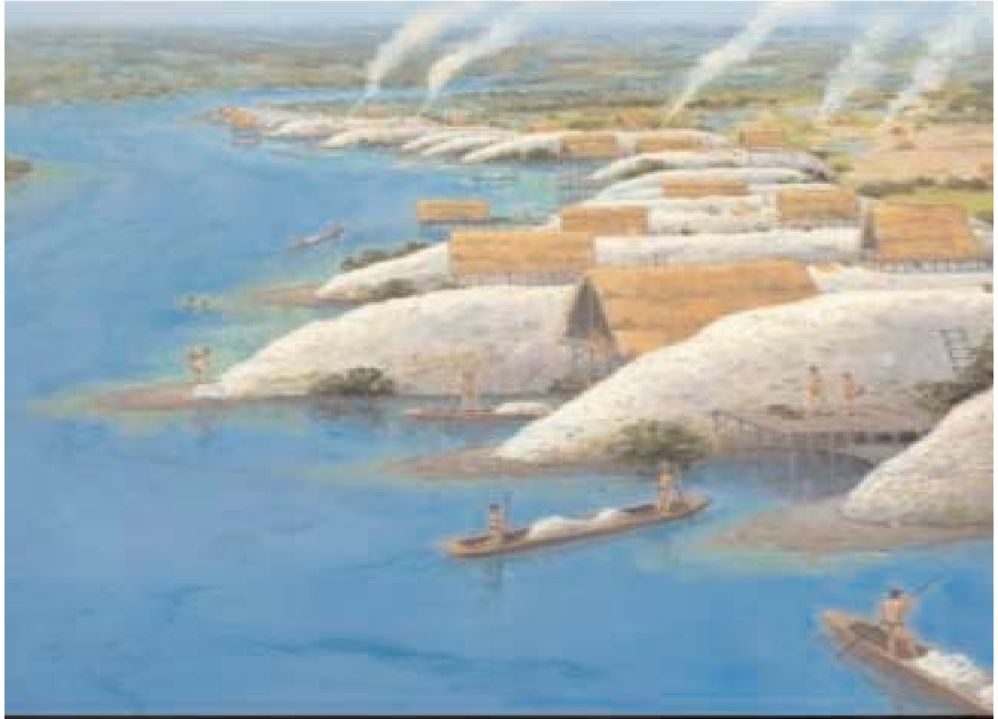
As a goldsmith, Sequoyah is in contact with the white population. In 1809 he attended the installation of a printing press operated by the Whites, which had fallen after a looting into the hands of the Cherokees.
Persuaded that whites owe their power to knowing how to read and write, he invented an alphabet making it possible to transcribe the 86 syllables of the Cherokee dialect. He reuses for this the lead Latin letters found in the printing press, sometimes by flipping them on the side, or by placing them upside down. This invention represents for him twelve years of work. After some resistance, this alphabet was officially adopted by the Cherokee nation in 1825.

In 1828, the first newspaper, partially written in the Cherokee language, appeared, the "Cherokee Phoenix". Other newspapers then follow which use this alphabet, still used today. This creation is one of the most impressive intellectual achievements on the part of a single man. Subsequently, while continuing to disseminate his alphabet, Sequoyah undertook the design of a universal alphabet for all Native American tribes and worked to reunite the dispersed Cherokees. He died during a trip to Mexico.

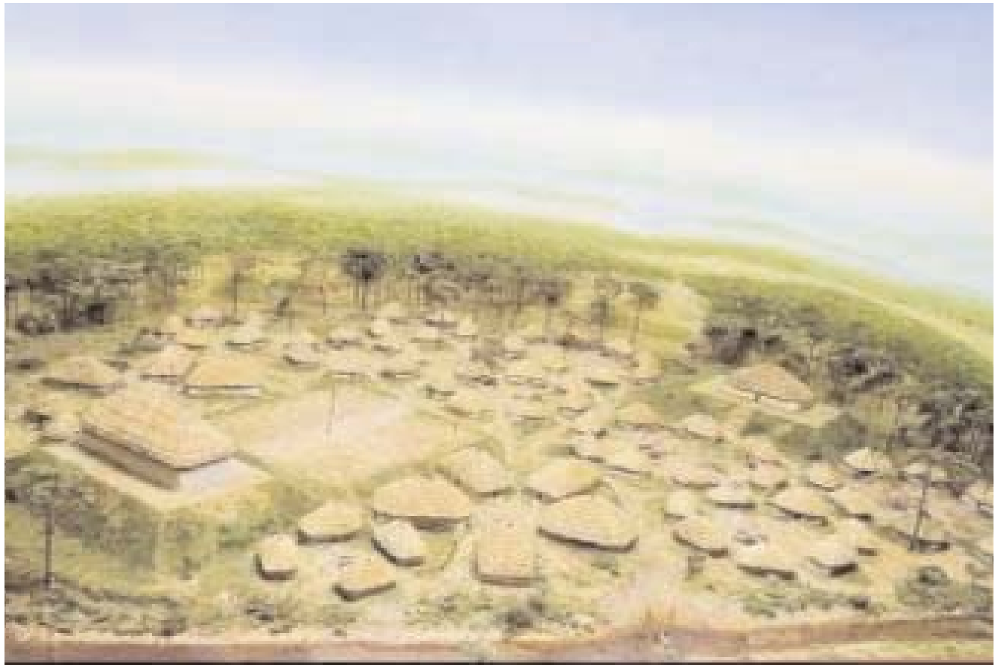
From the outset of slavery, the fate of the Indian tribes of the southeastern United States mingled with that of the slaves. It happens that the bonds become so close between Indians and those who flee their chains, that the white masters worry about them and take care to separate them. It also happens that Africans do nothing but fall from one bondage to another. Because some tribes quickly understand all the economic interest they will be able to derive from this workforce.

In a census of the population of the United States it is proved that in 1860 various tribes of the south had thousands of slaves, the Cherokees for example had 2504 slaves for 354 owners (up to 50 for a single owner).

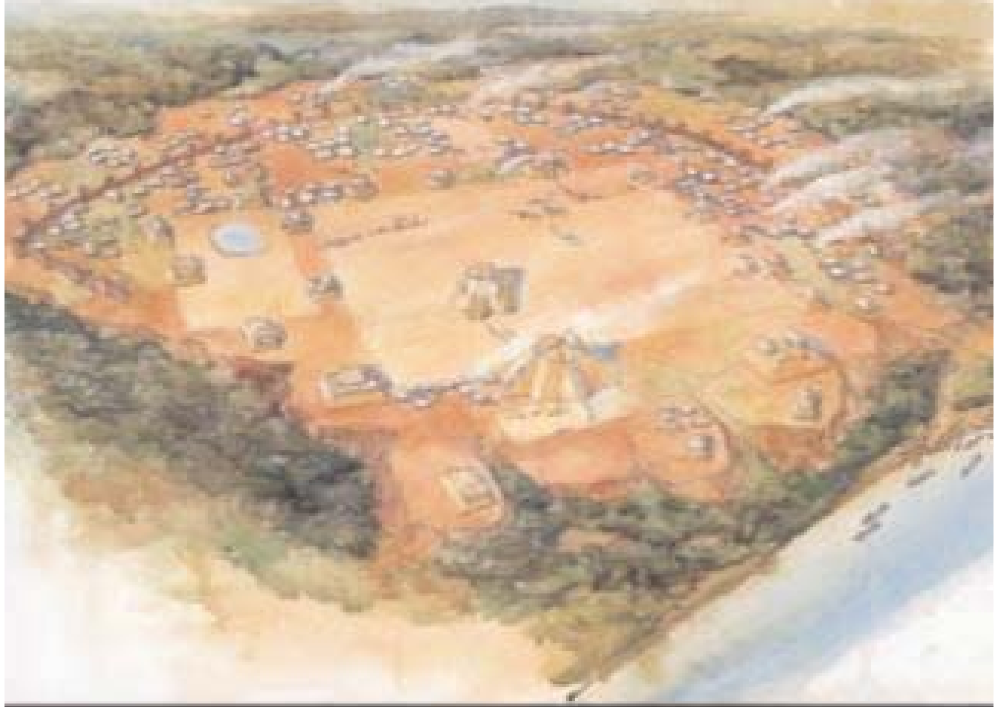
In 1825, the 13,563 Cherokees owned 1,217 slaves
In 1835, it was estimated that 10% of the Cherokees were an African ancestor.



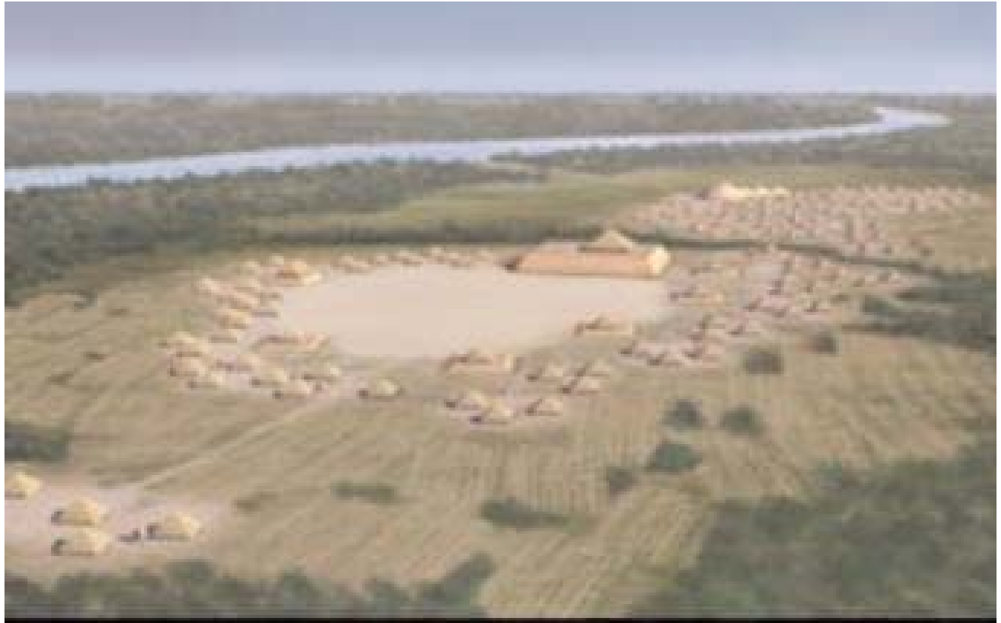
Turner River Site (Florida), 200 BCE-900 CE



Cofitachequi (South Carolina), 1300-1700 CE



Moundville (Alabama), 1100-1450 CE



Spiro Mounds (Oklahoma), 900-1450 CE

SEMINOLS

Indigenous people of Florida and Oklahoma who are part of the indigenous peoples of the Southeastern United States. People of farmers, breeders, hunters, gatherers.

The name comes from the formation of the word "simano-li" in the "muskoke" language, (creek language) which translates to cimarron in Spanish and can be interpreted by the terms "wild, fleeing". Cimarron also gave the name to the fleeing black slaves, the maroons, or maroon negroes.

This heterogeneous tribe was composed mainly of Lower creek of Georgia, of muskogee speaking Mikasuki and African-American escaped brown slaves, of some American white and Indians of other tribes.

A group of Hitchiti speakers, the Mikasukis, settled around what is today known as Lake Miccosukee near Tallahassee. Another group of Hitchiti speakers led by Chief Cowkeeper settled in what is now Alachua County, an area where the Spaniards maintained livestock farms (ranches) in the 17th century. One of the best known was called "Rancho de la Chua", and the area took the name "Alachua Prairie"

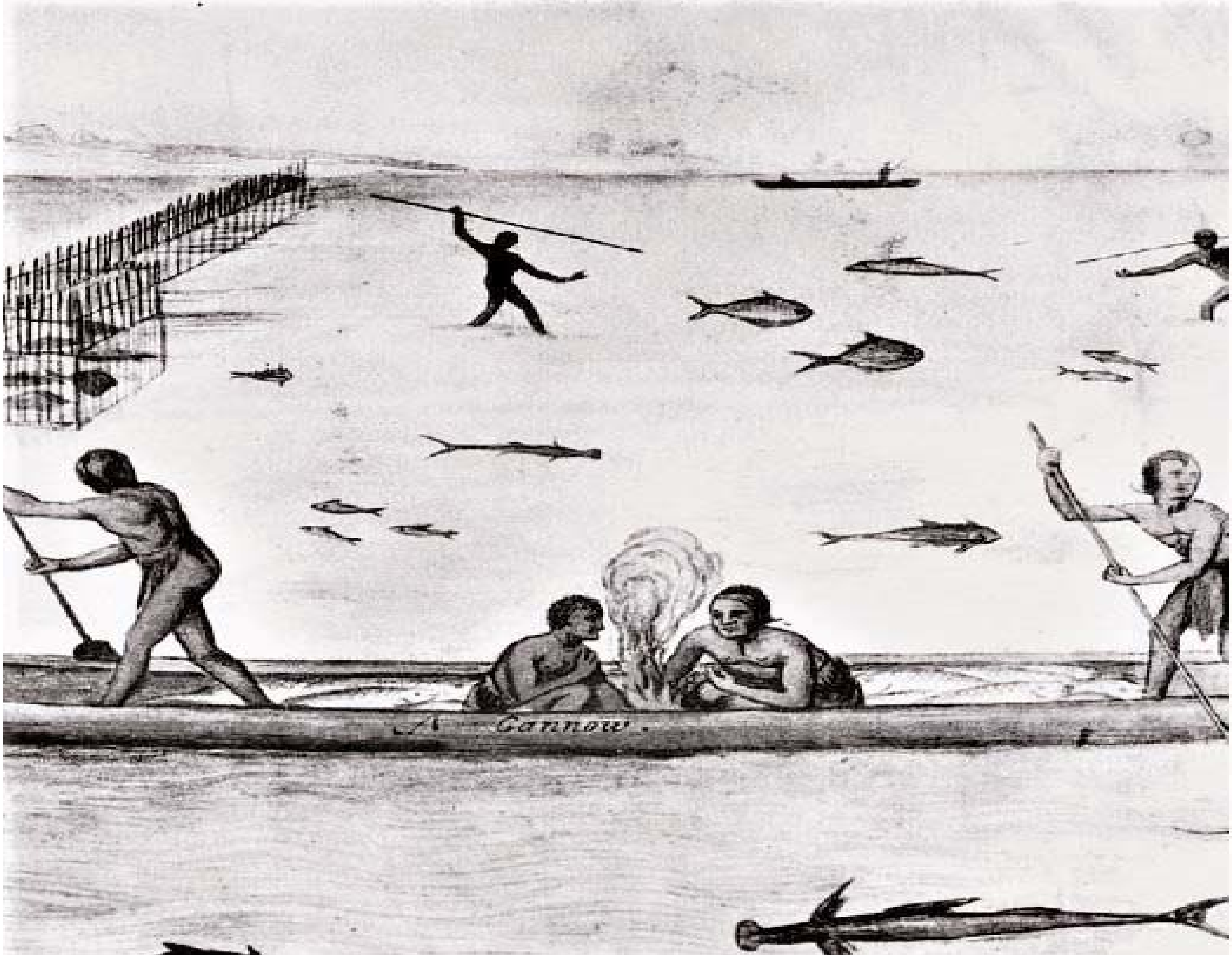
Other groups living in Florida during the time of the Seminole Wars included the Yuchis, Spanish Indians, so named because at that time they were thought to be descended from the Calusas, as well as the rancho Indians, living in fishing villages on the coasts of Florida.

The slaves who managed to flee the plantations of the British settlers reached Spanish Florida and became free. The Spanish authorities welcomed them by allowing them to settle in their own village Fort Mose and mobilized them if necessary in the militia in charge of the defense of the city.Other slaves on the run left to join the various Seminole groups, fleeing all contact. with the white man and they then became their slaves or full members of the tribe. About two thousand blacks live among the Seminole traditionalists, slaves who fled the plantations of Georgia.

The blacks who remained with the seminoles and integrated themselves with the tribes as well as their customs sometimes marrying their daughters are those which one calls "the black seminoles", thus forming a multiethnic and biracial alliance. These courageous men who, to gain their freedom, took the enormous risk of escaping, are welcomed by the Indians who integrate them into their society, not as slaves, but as free men. The escaped slaves put their knowledge of the white world at the service of their Indian brethren. Some help with agriculture, animal husbandry, crafts. Many participate with the Indian warriors in the defense of their new people.

Some of them even became important tribal leaders and others became warlords. The conditions imposed by the Payne Landing treaty on blacks living as free men among the Indians will give the Seminole one more reason to resist. It is expected that all blacks escaped, even for many years, will, when leaving for the West, be separated from the Indians and returned to their "rightful" owners. The Seminoles cannot accept such a condition which tears their families and their society apart, especially when they learn that a clause, kept for some time secret, provides for enslaving all the mixed-race Seminoles with "black blood"!

We have completely ignored the slavery of the Indians of the Southeast. In fact, since the XVIth century, and until the full XIXth century, most of the Indians taken prisoner, in particular the women and the children, easier to submit than the men, were systematically reduced to slavery. The price of their sale covered the costs of military expeditions. The Indians were often sent to the West Indies, even to Europe, so that they did not take advantage of their knowledge of the country to escape.


A Cannow.

Traditional housing

The villages are small and scattered, the society is organized in a system of autonomous bands around family clans. The villages are often built on levees of earth in the middle of the marshes, called "hammocks". The house called "chickee" is a light and airy construction covered with palms or cypress branches, adapted to humid regions, they resemble the carbets of the Indians of Guyana.

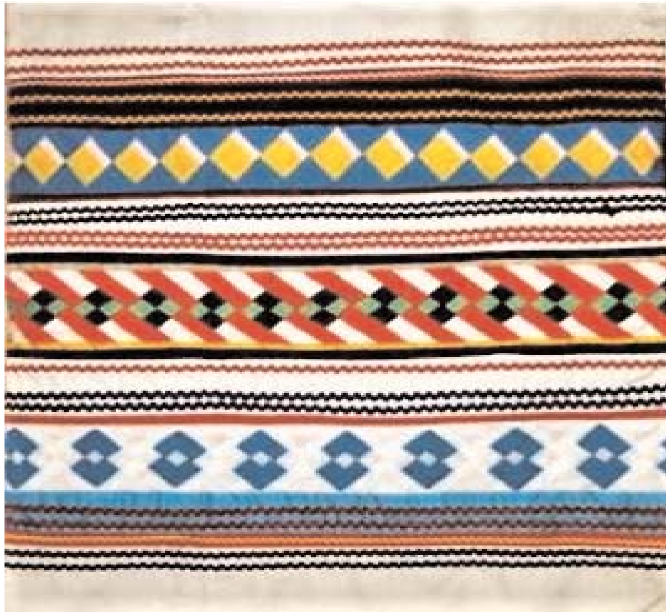
In the center of the village there is a kitchen chickee where each clan comes to cook together. There are also chickees that serve as bedrooms, warehouses, or meeting rooms.

Way of life

They hunted deer, small game, duck, wild turkey, otter, squirrel, turtle, alligator. From the beginning of the century, hunting, in addition to providing them with food sources, enabled them to have income by selling the skins of otters, raccoons and alligators which would be used in leather goods. They also sell colorful bird feathers, especially herons which will adorn the hats of the ladies.

Agriculture, gathering and fishing

In this new environment that is Florida, made of humid and dense forests, they strive to maintain their agriculture, their fortified villages, their way of life and social organization by adapting them to the climate. Their usual crops were corn, squash, beans and sweet potatoes, to which were soon added bananas, pineapples, sugar cane, tea and coffee.



DRESSING TRADITIONS

The "American tradition" technique was itself inspired by the traditions of the tribe of "Seminole" Indians (prior to the arrival of the colonists on American territory) - difficult to date precisely, between the 18th and 19th centuries - They s 'dressed mainly in furs and decorated their clothes with sewn and braided bands made with leather colored with plants from Georgia and Pennsylvania. During a trip to Florida in 1830 to sign a peace treaty, they discovered industrial cotton fabric and incorporated it into their clothing customs. From that time, once a year, the Seminoles went up the river to Miami and traded in their produce. They exchanged alligator skins or heron feathers very fashionable among the American bourgeoisie for rolls of cotton fabrics which they dyed on their territory as they had done with leather.

Its particularity: to make from strips of fabric sewn in parallel "flat" then cut transversely to various degrees then stitched up, then cut again and stitched up ... sometimes 7 or eight times, until obtaining a skilful "sequential" assembly of the most nice effect. Four predominant elements characterize the Seminole patchwork: the contrasting colors, the texture of the bands produced, the movement produced by the assemblages and the model which has a particular family, historical or religious significance. Each decor writes a "sentence" from the Seminole epic. Each family adopts a type of "seminole sequence" as a signature. The women combed their hair with buns pulled back to the forehead and wore many necklaces. They wore long flared skirts and caped bodices. The men were dressed in loose tunics with a wide belt, wearing a turban surmounted by feathers.Sometimes because of the heat, the seminoles did not wear light material for clothing and covered their bodies with fat to protect themselves. insect bites.

The circle of life
All the Amerindians of the American continent denounced their control as well as the various initiatives promoted by the authorities to promote their assimilation. and the methods used by missionaries to encourage Aboriginal people to abandon their traditional beliefs and embrace the Christian faith.

It is the same with the Amerindian cosmogony that the European missionaries try to eradicate. But what are they afraid of? Let us reread these words of Black Elk, oglada shaman, related by TC Mc Luhan in Barefoot on the sacred ground: "You noticed that everything the Indian does is in a circle. It is because the power of the universe also works in a circle and everything tends to be round. (…) The sky is round and I have heard that the earth is round like a ball. and all the stars too. When the wind blows harder, it forms eddies. Birds make their nests in a circle because they have the same religion as us. rises in a circle and becomes the same.

The moon does the same and both are Even the changing of the seasons forms a large circle and always returns to its starting point. The life of human beings describes a circle, from childhood to childhood, and also all that is animated by the force of the world. Our tipis were round like the nests of birds and they were always planted in a circle, the Ring of the Nation, a nest made up of many nests where, according to the will of the Great Spirit, our children have been born. " The circle is the symbol of a philosophy which advocates the integrity of a way of life whose qualities have been proven by hundreds of generations; while the loss of the circle is a tragedy of the loss of social behavior of members of a tribe or village. How can we not draw a parallel between these stages and the transcendent and liberating symbolism of "Ouroboros" the famous snake which "bites its tail".

This serpent, by drawing a circular shape, breaks with a linear evolution, marks such a change that it seems to emerge at a higher level of being, the level of spiritualized being, symbolized by the circle; It thus transcends the level of original animality, to advance in the direction of the most fundamental impulse of life; and this ascending interpretation is based on the symbolism of the circle, the figure of cosmic perfection.

These alternating periods of expansion and contraction, a sort of cosmic tide, imply that energy is rigorously conserved on the scale of the universe and that its density flow follows a cyclical course which increases and decreases periodically over time. . As spring differs in each cycle from the previous one, this cosmic tide of energy involves the renewal of a different universe at each stage. In the world of shamanism, a unique order connects the human world to the cosmic world through the "pillar of" 'gold', a kind of interconnection between natural and supernatural living beings. Nature, man, objects are part of the sacred dimension of Earth and Heaven.

Shamanically inspired, Amerindian and Inuit cosmology also conceives of the presence of the Spirit (Isuma) in all natural forms and beyond all forms. In the native world, there is no place for the layman. All life is sacred and this probably explains why no precise term translates the idea of religion as we know it. They don't need God, they don't name Him. They are not theologians who study the divine because they are the divine, they are an integral part of it. The Inuit had the greatest respect for the living world (nuna). Like all native hunters, they believe that the very act of hunting and killing for food is part of a powerful religious ritual. "The greatest danger to life," said one Inuk from Igluit, "is that human food is made up entirely of souls. All the animals that we kill and eat have souls that do not die with the body and that we must appease so that they do not avenge you for what we have taken from your body. " This is why a piece of walrus or beluga liver is always thrown into the sea, whether the dead seal is given fresh water to drink or whether the feathers of the birds are stuck in the snow or on the ground. This form of spirituality also called "polysynthetism" implies that any creature, as a starting point, can reach the Great Spirit since everything is His mysterious manifestation. This mystery gives natural forms a mystical meaning which associates order and harmony with the beauty that it generates.

The notion of respect is also essential in Inuit culture because for the Inuit, lack of respect for an animal or a human can create difficulties during the next hunts. The term "qikkutik" also corresponds to the shame or regret that a person may feel if he has not respected an animal. The time when men and animals talked to each other is not so long ago. The alliance between men and plants, air and water was obvious to everyone. Animals have stopped talking to men following the blunders of disrespectful ritual hunters or women who did not keep the right distance from the animal world, thus creating monsters, dwarves, giants, mutants: the tupilaks. For them, their greatest fear comes from the certainty that the non-respect of the rules of nature leads to the disappearance of the human being or to his return to the animal stage. Like most other indigenous societies, they considered living in harmony with nature their supreme "art".

This mystery gives natural forms a mystical meaning that associates order and harmony with the beauty it generates, but it also means that a formidable spiritual world rubs shoulders with human life from which we protect ourselves by creating protective amulets. This is why the Inuit of prehistoric times never had a word for art because they didn't need it. All the harmony of the cosmos, of the earth, including all living things, is inscribed in the circle of the perfect form which generates life. Thus, the tents, the igloos, the houses are oval like the fertile egg. The wise men, gathered to make important decisions, sit in a circle. In a circle, all are equal, so only wisdom, truth, justice can incubate, a philosophy very well articulated by the term miyupimaatisiium: "to be well in life".

It took us twenty-five centuries of Western philosophy, of scientific method, to understand the metaphysical respect for all living beings by primitive peoples. From then on, modernity will have created plagues "which arise from the claim of man to acquire superhuman knowledge in the name of which he is inclined to exercise omnipotence over others which does not suffer from being challenged".

So it was with archaic peoples: instead of listening to them, we eliminated them. The collective gods of ancient religions associated with notions of peoples, nations, territories, whether polytheistic or monotheistic, are signs of identity of a cultural and political nature. Spiritually speaking, these are misconceptions, and as the ethnologist de Brosse noted: "It would have been great if cat worshipers lived in harmony with rat worshipers. In contrast, in primitive societies, God did not 'ToGod only exists in relation to the "I" himself in relation to the community and the meaning of his whole life lies in his effort to find his place and to be inserted in the totality of which he is an element.

Instead of uniting everything, rationally merging into one god who struggles against other pagan gods, our Australopithecus ancestors intuitively felt that all forms of biodiversity naturally converge into the ONE and that all manifestations of God in matter, beings and forms, its "theodiversity" deserve to be respected.

Above all written knowledge, animism testifies to a great respect for all the beings of nature, because each one would have a soul which emanates from the Great Spirit which is the Universe. Rather than believing in determined spirits like angels, animism emphasizes an invigorating, mysterious and impersonal "power" present in all.

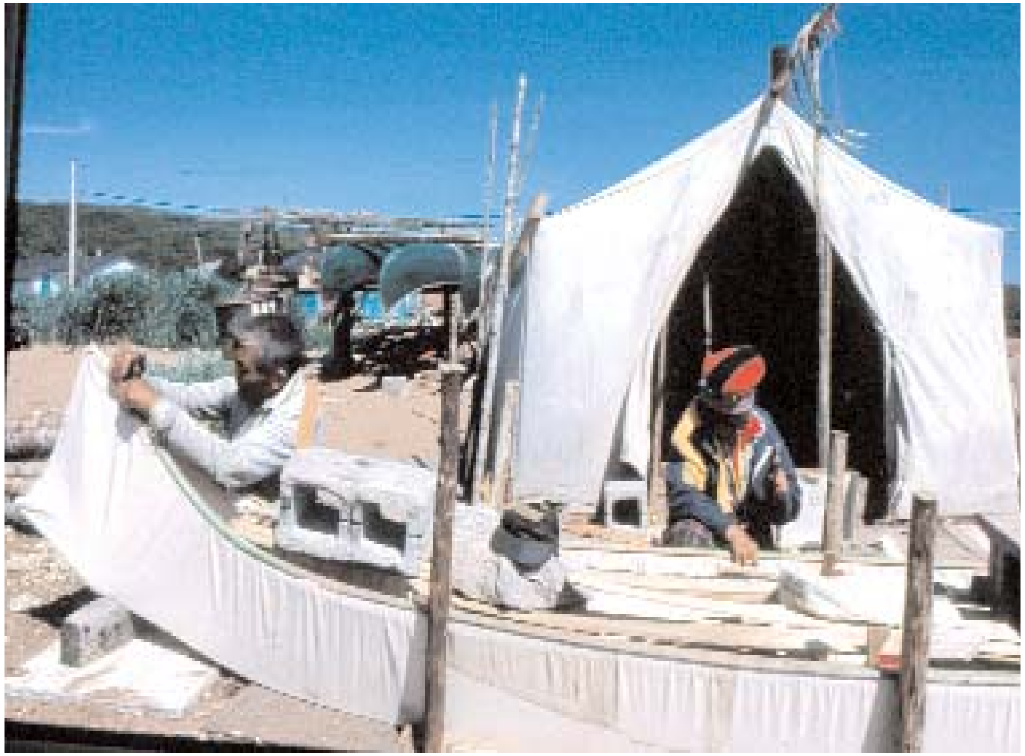
Once again it is important to specify that animism represents a force, a breath, a spirit, a "logos" present in everything. In fact, it is an intimate relationship between man and the Universe that should not be confused with collective totemism where a thing, a plant, an animal, a being, are invested with supernatural powers. social and cultural purposes and policies.

Therefore, this diversity of levels of consciousness common to all species, however small, forms a specific Unity for the entire Universe. Thus is perpetuated a conception of the sacred which associates the cosmic order with personal responsibility towards the preservation of the balance, of the harmony of Mother Earth. European explorers have brought from America stories of incredible sacred rituals: sun dance (Sioux), hozho (Navajo), search for harmony and other rites that celebrate the cosmic renewal of the seasons. Without forgetting the discovery of mountains and sacred lakes, mystical stones, shamanist songs with healing power. All space, living beings, plants, animals, air, fire, water, rain; all creation is crossed by the presence of a supreme power. It is all nature that speaks to man and reveals to him the greatness of the Great Spirit, of the Great Manitou who brings together in himself the multiplicity of sacred mysteries.

"Oh Great Spirit, whose voice is heard in the wind and which with a breath animates the whole universe, listen to me. I am one of your children, small and weak. I need your help , of your wisdom.

May my ears be attentive to your voice, may my eyes contemplate forever the splendor of a setting sun, may my hands respect your creation. Make me wise to learn what you have taught my people: the lesson hidden in every leaf, under every rock.

God only exists in relation to the "I" himself in relation to the community and the meaning of his whole life lies in his effort to find his place and to be inserted in the totality of which he is an element.



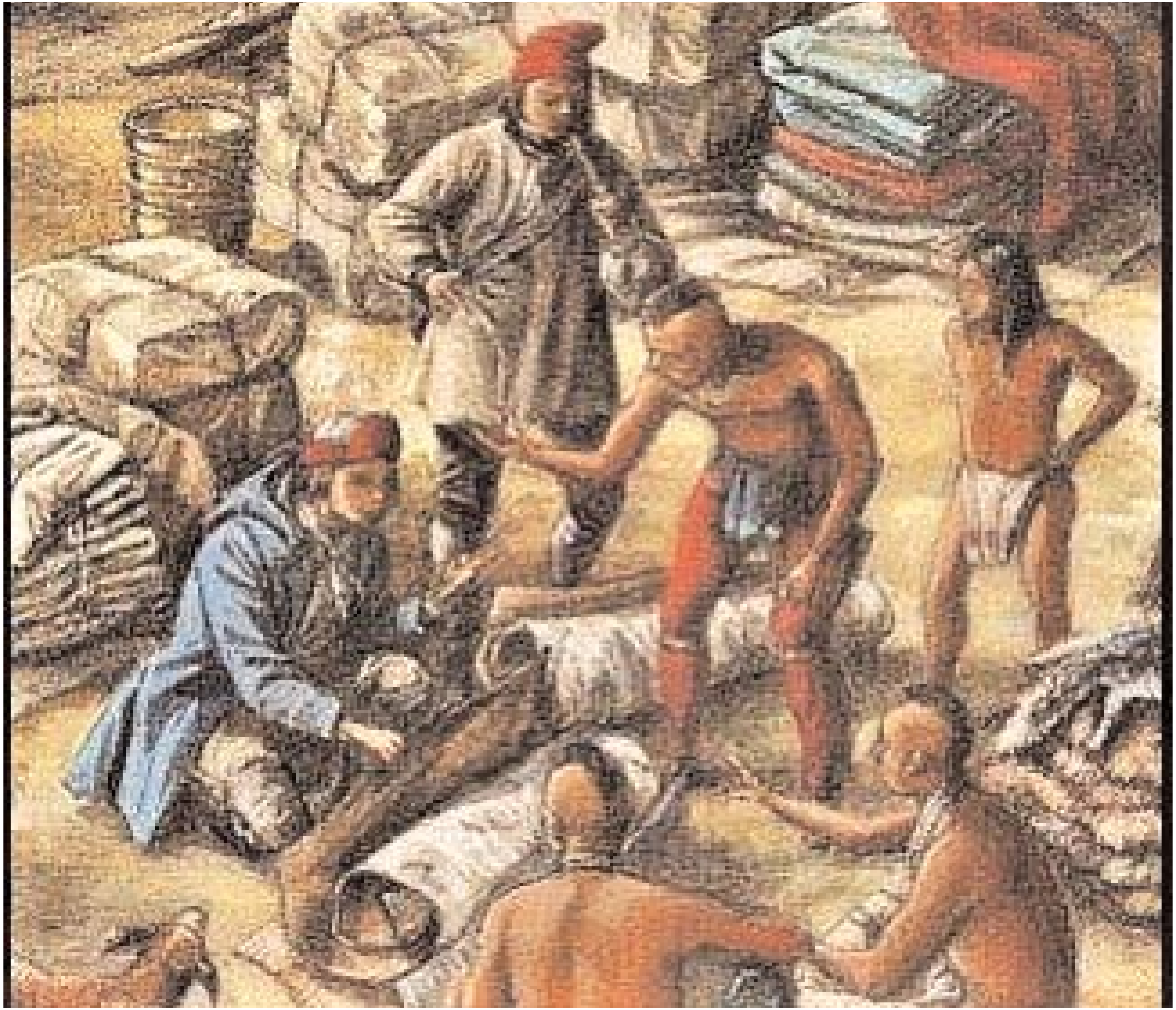
(...) This is a reason subject to the dictates of fear, fears that have continued to worsen for millennia, under the pretext of eliminating them; Such a reason should be defined simply as a morbid pathological phenomenon; It is literally a reason which does not cease creating new pains and which obliges the man to suffer more and more for himself and for the consequences of his acts. (...) Since men have a history, they have waged wars, wars that are increasingly cruel and devastating. (Some scholars even claim that war is man's only true religion.) What further clues must be added to be able to say that throughout history reason has only become crazier, and l man who is always crazier? Nothing in man unmasks the sick animal so much as this limitless hypertrophy of fear and violence. "

Western Christian white society is not left out and presents itself as nihilist. The French, whose racism against North Africans and Malagasy has reached disgusting dimensions. The Spaniards, who massacred more than three quarters of South American Indians with incredible brutality, the Dutch slave traders who enslaved the local populations of South Africa, the Italians who, there are just a half century, attacked with rare bravery on gas Ethiopia, one of the poorest countries in Africa, the English who enslaved and exploited nearly half the world, repeatedly fired on crowds indigenous peoples and placed the Native American tribes of Canada on reservations. The white Afrikaners who organized "native parties" where the game was replaced by black natives.

Bacteriological genocide in North and South America

Viruses and bacteria were the first biotypes of biogenesis to appear on earth and will be the last to disappear. The course of humanity is strewn with pandemics and viral and bacteriological diseases, proof of the plague and cholera which have decimated entire populations. But for the first time in human history, humans (?) Intentionally spread disease to exterminate other humans, resulting in the genocide of tens of millions of indigenous people in South and North America. Later, the North Americans will believe to have received from "Providence" the mission to conquer the whole continent and to develop it so that all the indigenous peoples benefit from the virtues of "civilization". Indian hunting will become a national sport for the greater glory of God!

Then, after some 200 to 300 years of contact, as well as diseases such as smallpox, tuberculosis, scarlet fever and measles, all associated with armed conflict and famine, will decimate most of these populations. A Yankee general once said that "a good Indian is a dead Indian".



Wounded Knee Massacre.

1890 (USA) December 15.
The death of Sitting Bull. During his arrest by the American authorities and the ensuing brawl, Sitting Bull and his son Crow Foot are shot dead. The chief of the Sioux, nicknamed "Sitting Bull", is the symbol of resistance to the Whites who coveted the gold of their land. He notably led the Battle of Little Bighorn (June 25, 1876), where General Custer and the 7th Cavalry Regiment were massacred.

1890 (USA) December 29
In South Dakota, nearly 400 Sioux Indians, mostly women and children, are exterminated by North American troops. The Wounded Knee massacre puts an end to the Indian wars that have raged in North America since the beginning of white colonization in the 17th century. The Whites therefore declared the conquest of the western territories over. The Indians of North America were herded in reserves and their main game disappears, the bison are slaughtered under the incentives of the federal government.

La mort du chef Big Foot et le massacre de sa tribu à Wounded Knee marqua la fin des guerres amérindiennes contre les Yankee.

The latter were starved (bonus for the slaughter of bison), robbed of their land by violence and deceit (non-respect of signed agreements) and deprived of their freedom of worship as well as the right to speak their languages. This policy is frequently called ethnocide.
The demographic fall of the American Indians is due to epidemics, the best known being that of smallpox. We cannot call "genocide" the fact that a population has been destroyed by a pandemic (a pandemic which also affected whites, eight million Europeans and Asians killed by smallpox while the tribes, much less numerous, were contaminated). "Across the Americas, the diseases that infected Europeans spread from tribe to tribe, traveling much faster than the Europeans themselves. It is estimated that 95% of the pre-Columbian Native American population, the most populous tribes and the The better organized societies of North America, the societies living north of the Mississippi, disappeared between 1492 and 1600, even before Europeans settled on the Mississippi.

According to Dr Jared Diamond (University of California), Guns, Germs, and Steel: The Fates of Human Societies, WW Norton, 1997 (Pulitzer Prize for best science book), pages 78, 374: These are most certainly the conditions of (bad) lives that limited the expansion of the tribes. These conditions were caused in particular by nomadism. The Indians had very poor living conditions and developed diseases that would contribute to their demographic collapse: violent flu, encephallytes, diseases of the eyes, lungs, not to mention all the diseases carried by mosquitoes, animals and the climate. .

THE GREAT PRE-COLOMBIAN CIVILIZATIONS

In the United States, one of the richest crops is that of mound-builders (in the east of the country), whose economic foundation was the cultivation of corn associated with hunting and gathering. In the S.-O. of the United States, the Pueblo Indians are the most representative of these agricultural civilizations. Sedentary, these villagers cultivate corn and practice crafts, especially ceramics. The pueblo culture, which was preceded by the Basket maker period (100 BC-700 AD), took hold around the 7th century. of our era and does not undergo major transformations until the tenth century.

Pre-Columbian cultures are studied according to their areas of cultural diffusion: Mesoamerica (from the states of Tamaulipas and Sinaloa in Mexico to the northwest of Costa Rica); Circumcaraïbe area (Antilles, southern Central America, Costa Rica, Panamá, coasts of Colombia and Venezuela on the Atlantic, and, in the south, as far as Guyana); Andean area (Andean zone to Chile).

Most pre-Columbian civilizations evolve within a chronology divided into three major periods, themselves subdivided and which define the styles:
- the Preclassic period (around 2000 BC-around 250 AD) includes the old Preclassic (around 2000-around 1000 BC), the middle Preclassic (around 1000-around 300 BC) and the Late or Late Preclassic (around 300 BC - around 250 AD);
- the classical period (c. 250 AD-950 AD) includes the old or lower classical (c. 250-c. 600) and the recent or higher classical (c. 600-c. 950);
- the postclassic period (around 950-1500) includes the old postclassic (around 950-1200) and the recent postclassic from 1200 to 1500.

THE MESO-AMERICAN AREA

In Mexico, Central America and Peru, the so-called "pre-Columbian" period ended in the sixteenth century. ; in other areas, it continued until the 17th century, 18th century, 19th century. or even twentieth century. This is why the name "pre-Hispanic" is often given to the cultures of the regions conquered and colonized by the Spaniards.

Human penetration, in several waves, through the Bering Strait, probably began during the last glaciation; they are predators with lithic and bone tools. These prehistoric hunter-gatherers are, without doubt, the authors of a large part of the paintings and wall engravings of the American continent. Around 7000 BC, the retreat of the glaciers led to global warming, which led to the modification of human living conditions and the appearance of the first agricultural practices.

Quetzalcóatl

During the Preclassic (2000 BC-300 AD), divided into ancient, middle and late phases, features appear that will become characteristic of pre-Columbian civilizations, especially with the Olmecs and their ceremonial centers (La Venta, San Lorenzo, Tres Zapotes and Monte Albán). Their influence is exerted as far as Chavín, in the Andean area, and as far as Kaminaljuyú, from where the Mayas will soon emerge. On the coast of the Gulf of Mexico, the Huaxtecs, after some similarities with the populations of the highlands, evolve independently. On the Pacific coast the cultures of Guerrero, Jalisco, Colima, Nayarit, etc. are born, which will persist during the classical and the post-classical. The classical period (300-900 AD) corresponds to the flourishing of the civilization of Teotihuacán and the development of the myths of Tlaloc, the god of Rain, and of Quetzalcóatl, at that time god of Vegetation, often represented in murals and on the walls of ceramics. The hard stone funeral masks confirm the talent of the sculptors; the monumental complexes with imposing pyramids and the ruins of palaces attest to a real concern for town planning.

Teotihuacán radiates to Kaminaljuyú and Tikal, where the Mayan civilization shines, to El Tajín, center of the Totonacs, and Monte Albán, capital of the Zapotecs. At the beginning of the postclassic period (from the tenth century to the Spanish conquest), the latter still built the center of Mitla which, towards the thirteenth century, passed into the hands of the Mixtecs. The postclassic began with the decline of the men of Teotihuacán, replaced by the Toltecs, who have Tula as their metropolis and whose organization, significantly different from that of the previous cities (vast temple, fortifications, etc.), seems to correspond to the warlike aspirations of the population, also reflected by its god Tezcatlipoca. Tula fell under the blows of invaders from the North, including the Chichimecs and the Aztecs, who founded Tenochtitlán (Mexico), whose artistic creations leave no doubt about their warlike character.

CENTRAL AMERICA AND THE CIRCUMCARIBBEAN AREA
Central America is marked by the interpenetration of Mesoamerican and Andean influences; the evolution of its civilizations is often close to those of Mexico. Among the artistic creations are female terracotta statuettes, pottery and meta (grinding stones), very skillfully carved, as well as hard stone and gold adornments. Relatively recent, the Tairona culture has developed along the Atlantic coast of Colombia. In the West Indies, the main remains - those linked to the culture of the Tainos, Indians of the Arawak family, completely decimated during the conquest - are very good quality carved wooden objects (chief's seats), ruins of pelota playgrounds and numerous petroglyphs.

In the northern Andes, which currently correspond to Colombia, Ecuador and part of Venezuela, the most developed craftsmanship is that of goldsmithing, as evidenced by the magnificent objects, in gold or tumbaga, of Muisca, La Tolita, etc.

The formative period (1800-300 BC) reached its peak with the site of Chavín whose influence is found on all the coasts of Peru, especially in Paracas. The period of regional development (300 BC-600 AD) was marked by the discovery of irrigation, adobe constructions (temples and pyramids) and by a certain individualization of cultures: in north the cultures of San Agustín and Tierradentro, on the north coast, that of Moches, that of Nazca on the south coast and that of Tiahuanaco, on Lake Titicaca, whose expansion between 600 and 1000 extends to Chile; Huari will influence the culture of the Chimús. Thus between 1000 and 1400 kingdoms flourish which bring local particularities, which will be abandoned under the rule of the Inca Empire, itself annihilated by the Conquest.

Christian Duverger: The term was coined by German anthropologist Paul Kirchhoff in 1943. Mesoamerica is a territory that stretches from the Tropic of Cancer in the north to the Isthmus of Panama in the south. In this geographical area, peoples who spoke in Nahuatl, Maya or even Otomi coexisted… They circulated freely, without constraint of borders, and shared a common culture. They had, in fact, identical social, religious and worship practices. One of the conditions of this conviviality was that everyone spoke the most important languages of Mesoamerica. It is illusory to want to draw up a linguistic map of this region, because in the same place several idioms were used.

Our ignorance and our incomprehension of this world come from the 19th century. The first serious Americanist studies date back to 1875. At that time, Europe was forming into nation-states. And the researchers wanted at all costs to transpose the Western model to Mesoamerica. In a "balkanized" vision of the world, they defined a people according to a territory and a language.

To add to the confusion, thinking about these ancient societies has also become confused with the art trade. The exotic merchants, following a few scientists who had already ventured into this field, invented the "mosaic of cultures". For them, each valley corresponded to a civilization. And since we have a valley every 50 kilometers, we found ourselves with a catalog of fanciful cultures: Tepanecs, Zapotecs, Mixtecs, Mazatecs ... While everywhere, among the Mayas, the Aztecs or the Toltecs, the name mattered little. In the pre-Hispanic world, the name of the city you lived in only made sense: if you lived in Cacaxtla, you were a Cacaxteca, if you lived in Mexico City, a Mexica.

All these peoples were originally nomadic tribes. Do we know when they were established to found the great city-states?

It is difficult to answer this question with great precision. With caution, I would say that the tribes settled down around 1500 BCE. That is to say three centuries before the appearance of writing in Mesoamerica. The earliest known glyphs date back to 1200 BC. Between these two dates, we do not know how it happened. Are there attempts, trial and error? Nothing allows us to know for sure. What is certain, however, is that previously they were nomadic groups, moderately numerous for logistical reasons: from 30 to 80 people, that is to say just above the family level. When the first writings appear, we realize that they were already organized into highly developed and hierarchical societies, with know-how and knowledge: they knew how to hunt, fish, and they mastered agriculture.

Ninety-five percent of the glyphs have been deciphered. What do the early scriptures tell?

Among the pre-Columbian peoples, writing is first used to draft the "legal" pact - to use an anachronistic term - which legitimizes the presence of a clan in a territory. Taking possession, for these former nomads, is essential. The implantation always takes place according to the same process. They began by digging a hole in the earth to place offerings, according to a precise codification. Above the offering, they built a "marker", that is, a construction that served to remind future generations of their arrival there.

Initially, it was a tumulus, on which would then be erected a pyramid. It was getting inscriptions saying, in essence, "We people So-and-so have settled in this place, in such-and-such a year, and we have decided to call it that." Thanks to these inscriptions, everyone knew the history of the city. They also tell legendary tales, such as the creation of the world. Finally, there are the actors of the founding of the city, lists of sovereigns or kings-priests.

How are the city-states organized? Are their structures comparable to those of ancient Greece?

We must keep in mind that the pre-Hispanic world is unique. There is something both very beautiful and very special about Meso-Americans: they are sedentary people who have not forgotten that they were nomads. And they have organized their society in such a way as to keep a little nomadism in their life. We can see this by observing the plans of their cities: in the center, there is always a pyramid, which recalls the offering made to the gods at the time of their installation. Around it are organized other pyramids, temples, shrines and palaces. Next come the living quarters. These are not necessarily close to each other. Unlike our medieval cities, where the houses were clustered together, the pre-Columbian cities used a lot of space. Finally, beyond the residential districts, the Meso-Americans preserved a space of nature in the wild state. There was neither habitation nor culture. As for the fields, they were beyond this no man's land.

The Aztec peasant had to walk for half an hour to get to his field - this is the minimum that can be observed, the maximum being an hour and a half. Forced to cross this area in the wild, man - only men worked the land, women stayed at home could hunt, gather and find impulses from his migratory past. This persistence of nomadism in the imagination of Meso-Americans is also found in their funeral rites. They buried their dead with food and drink. They believed in fact that the deceased needed provisions to migrate to the land of the dead. His journey underground lasted four years. It is a beyond of nomads.

Corn, avocado, potato, or even tomato (which comes from the Nahuatl word tomatl), common on our tables today, were not only cultivated, but also elaborated by Mesoamericans. Were they masters in agriculture?

Their agriculture is, in any case, remarkable in the sense that everything has been planned to avoid human effort. Maize, for example, the staple food for them, requires a minimum of work from the farmer. To sow his milpa, his field, the pre-Columbian farmer makes a hole in the ground with a stick. He sows the seed there. And that's all ! Then the corn gets by. We do not transplant it. We do not weed, since the weeds do not exceed 40 centimeters. You do not bend down to harvest, the ear growing at breast height. Finally, you get extraordinary productivity: for a seed sown, you collect 80 seeds! However corn is not a gift of nature, it is the result of a work of selection of plants, a "genetic" construction, as one would say today, of the Mesoamericans. The same goes for the tomato which has been worked to obtain two other plants from the same plant strain.

The potato, which did not exist in its natural state and which was obtained by developing the root part of the tomato. Tobacco: They modified the plant to produce leaves that can be dried and smoked.

Cocoa also held a special place in their society. Why ?

According to their legends, cocoa was a gift from the gods. In some traditions, Quetzacóatl, the "feathered serpent" taught women how to grind beans. Unlike the Amazonian people who eat cocoa in its fruit state - cupuaçu is delicious - Meso-Americans waited for the pod to ripen before harvesting the beans. It was a luxury drink, reserved for the ruling classes. The cocoa tree grows in fact in the lowlands, and importing it to the highlands, as in Mexico (2,200 meters), storing the beans, processing them, was quite expensive. The Aztecs called it xocoatl ("bitter water"). It was eaten without sugar. Pepper was added to it, to obtain an exclusively virile drink, supposed to be an aphrodisiac. The beans, which were kept for a long time, were also used as currency.

Human sacrifices, bloody rituals, polygamy, many aspects of pre-Columbian society shocked the conquistadors of the 16th century. Today, does the work of archaeologists provide a better understanding of these practices?

Yes, but the misunderstanding is likely to last a long time yet, because the Mesoamerican world is a counter-model of ours. In the Western model, you have a cosmogony of a divine and transcendent nature. The question of the creation of the world has been resolved quite simply: it is a god - sometimes, several of them are involved - who created the universe. Man's job consists in trying to understand this world which is imposed on him and of which he is not able to change the rules. In the pre-Hispanic world, man is the creator of the earthly order and he is responsible for it. Every day, he must perform a number of actions to save the universe. Hence a series of rites, ceremonial obligations, among which is human sacrifice.

There are other major differences. Let's take the time: the Old World established its calendar according to divine creation. The calculation of the days is based on astronomical observations linked to the movement of the sun. In the Mesoamerican world, man creates his own calendar rhythms: their 260-day cycle, for example. Everyone looked for which planet it could correspond to. However, this is an approximation of the time of human gestation. There is no astronomy here, too bad for the romantic myth. Mesoamericans don't give a damn about the movement of the stars, for the simple reason that they are the ones who make the stars walk.

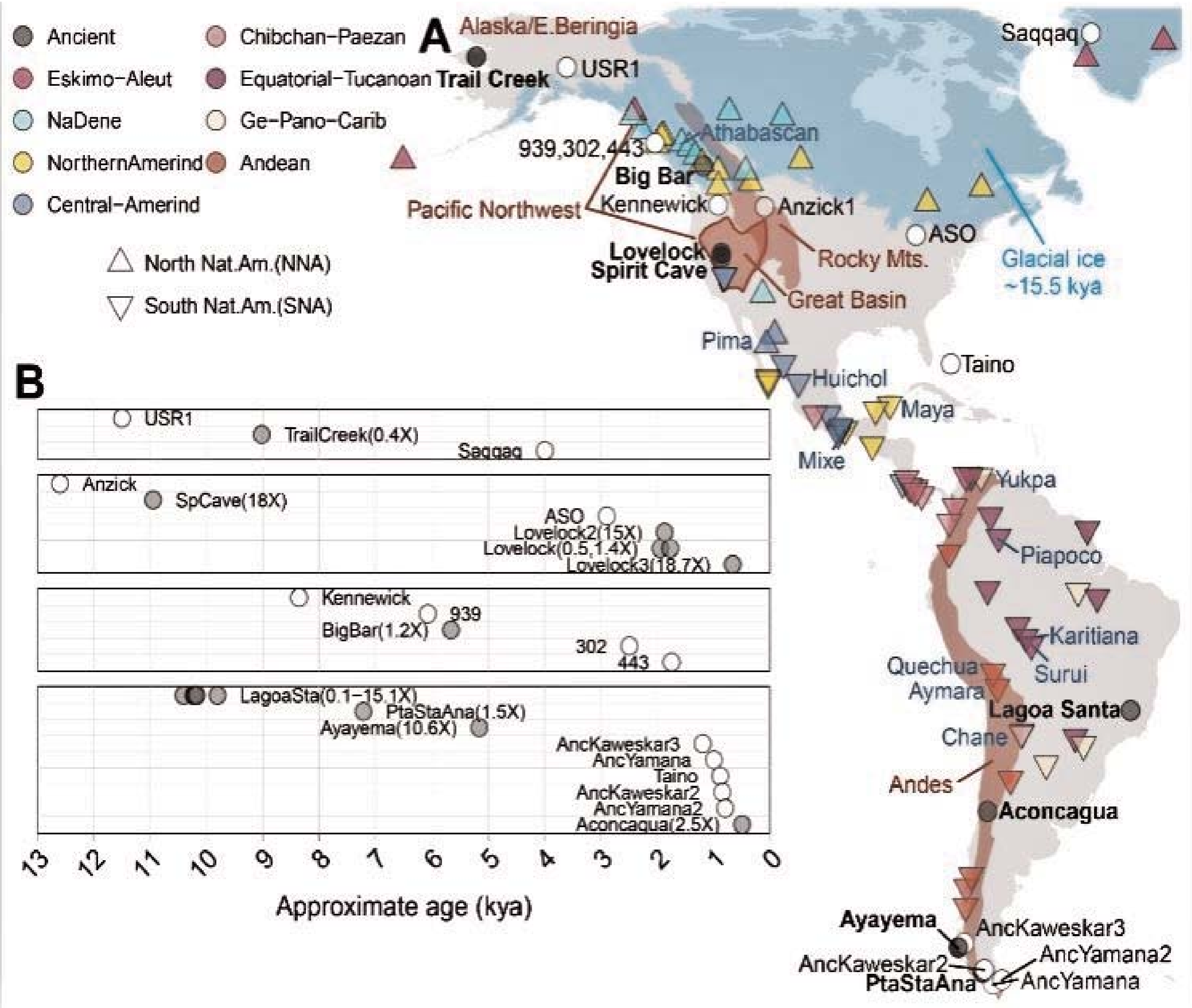
Another example of misunderstanding: polygamy. We cannot reduce it, with them, to male pleasure. Women in Mesoamerican society are linked to the land. It represents the house, which is inscribed in a district, then in a city, which ultimately belongs to a cosmic geography. According to the logic of these peoples, a chief cannot claim authority over a territory if he is not married to a woman from that territory. Moctezuma, the ruler of Mexico City, had 150 wives in order to rule over the entire Aztec Empire. There have been a lot of misunderstandings, because, objectively, it's complicated. For each detail, for each element, the researchers must, each time, ask themselves the question: are we not in the process, by making such and such an interpretation, of tackling a European idea?

The story is often told by the victors. The conquistadors of the 16th century, and the religious who followed them to evangelize the populations, did they not present these peoples as barbarians to justify their conquest?

To answer this question, it is necessary to understand who is the victor of the Aztecs. After fifteen years spent in the West Indies, Hernán Cortés saw the disaster of the Spanish presence. He did not want to let the scenario of destruction and slavery repeat itself in Mexico. Since, anyway, these peoples met, he thought, they had to live together. His big project was crossbreeding. He himself will link his fate to a Nahua woman, the Malinche, who will give him a son. After making himself master of Mexico City, distrusting the Catholic Church, Cortés brought in Franciscan missionaries, an order that advocates a simple life, poverty and fraternity.

In Mexico, he asked them to convert the Indians without stripping them of their identity. Baptism in the Catholic faith was to save them from slavery, without preventing them from living according to their traditions, with the exception of human sacrifices. These Franciscans integrated with the indigenous populations and learned their languages. They gathered information on religion, social practices, politics, rituals ... Is this a reliable source? Absoutely ! Insofar as the objective of Cortés and the Franciscans was to constitute a national historical corpus so as to make Mexico independent in the long term. Because Cortés was an independentist. The Mexico we know today is the product of the vision it had 500 years ago.

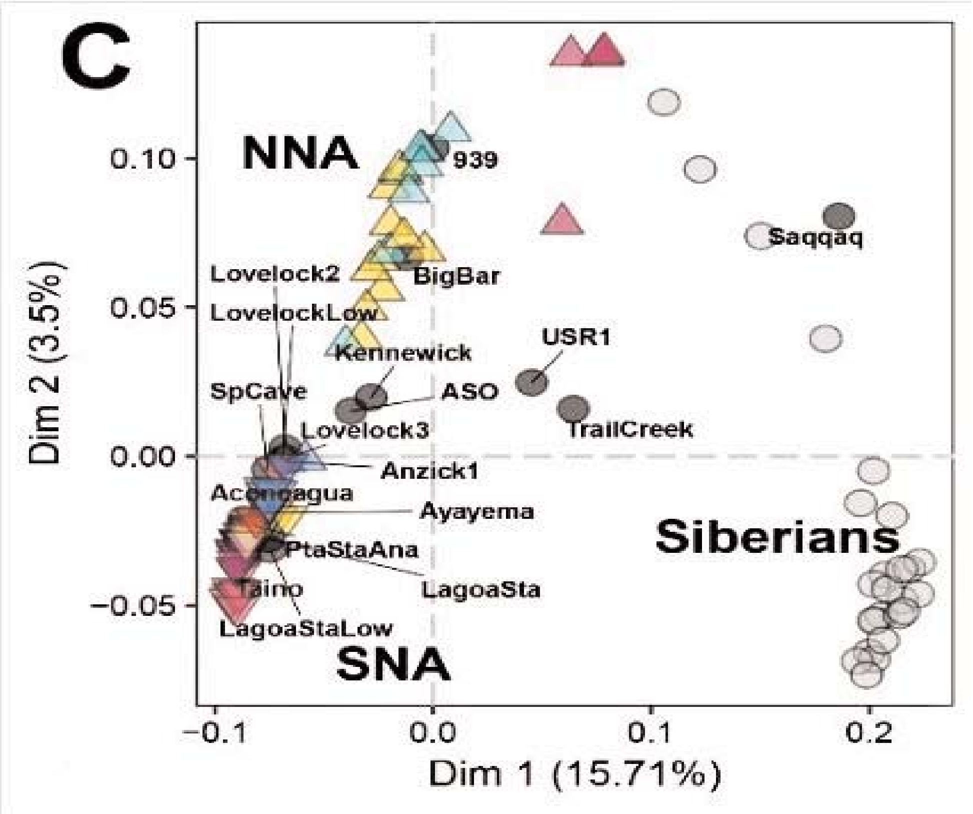
Ancient dispersions of men in the Americas



The first genomic studies showed that the ancestors of Native Americans diverged from the populations of Siberia and East Asia about 25,000 years ago. Then a divergence occurred between 22,000 and 18,000 years ago between the ancient Beringians and the Native Americans who then divided into two groups: the Native Americans of the North and the Native Americans of the South between 17,500 and 14,600 years in the south of the Eastern Beringia (now Alaska).

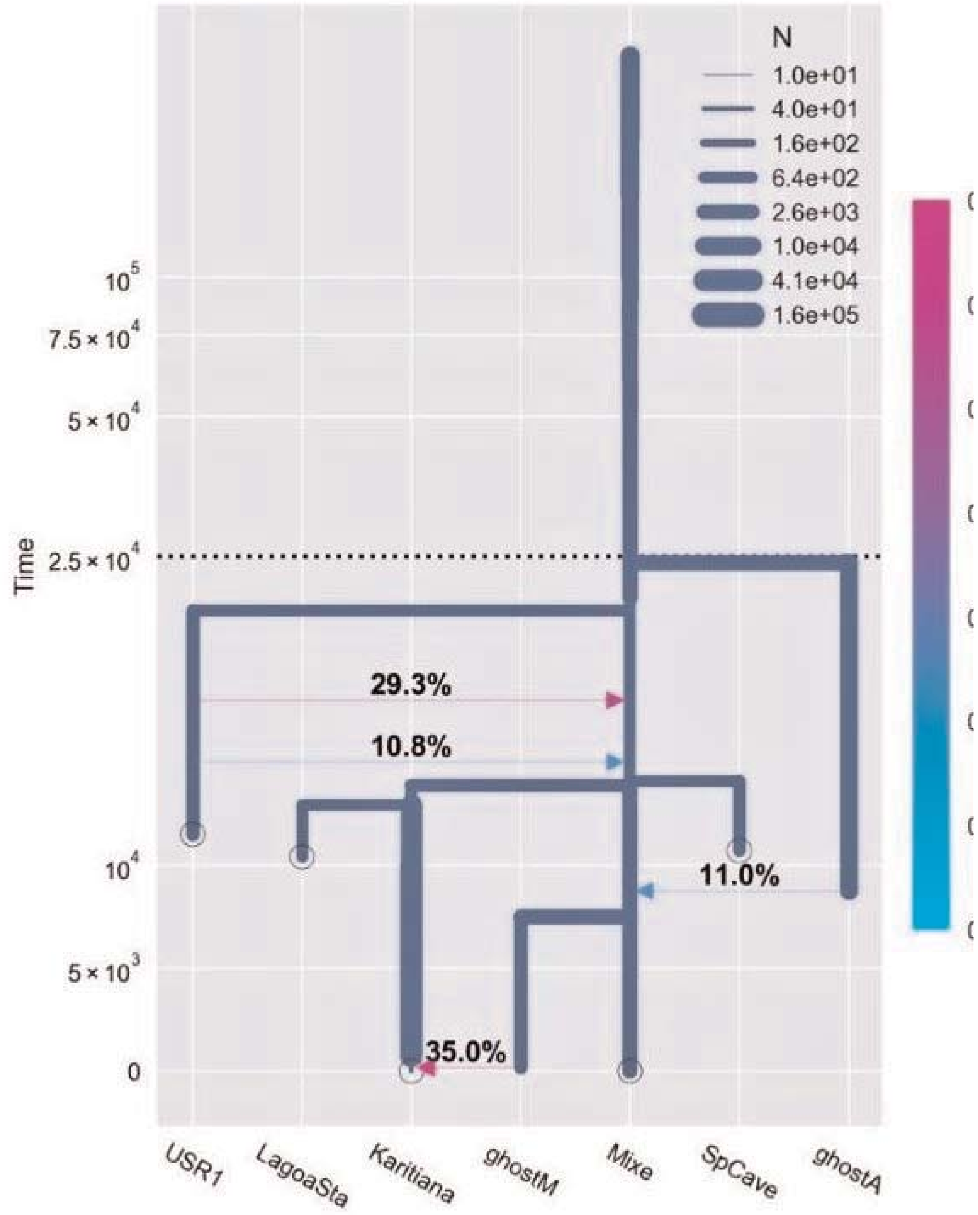
Paleogeneticists have sequenced 15 new ancient genomes located between Alaska and Patagonia and dated between 10,700 and 500 years old: an individual from the Creek Cave 2 site in Alaska aged 9,000, an individual from the Big Bar Lake site in 5,600 year old British Columbia, one individual from the Spirit Cave site in Nevada 10,700 years old, four individuals from the Lovelock Cave site in Nevada dated between 1950 and 600 years old, five individuals from the Lagoa Santa site in Brazil dated between 10,400 and 9 800 years old, two of the individuals from the sites of Punta Santa Ana and Ayayema in Patagonia dated 7,200 and 5,100 years ago and a 500-year-old Inca mummy from Mendoza in Argentina:

The authors performed a multiscale analysis. In the figure below, individuals are represented by the same symbols as in the figure above. North American Indians (NNA) are top left, South American Indians (SNA) are bottom left, and Siberians on the right :



A previous study showed that the Alaskan USR1 individual, representative of the Ancient Beringians, remained isolated and distinguished from the Native Americans of the North and South. The individual from Creek Cave 2 (TrailCreek) studied here is found to be close to USR1 in the two previous analyzes. So these two ancient Alaskan individuals form a group called Ancient Beringians and confirm the hypothesis that the separation between the North and South Amerindians took place in southern Alaska (Eastern Beringie), and not in Alaska. . This notably implies that the Athapaskans and Inuit who now inhabit Alaska and are Indians of North America, moved north after 9,000 years (Age of TrailCreek).

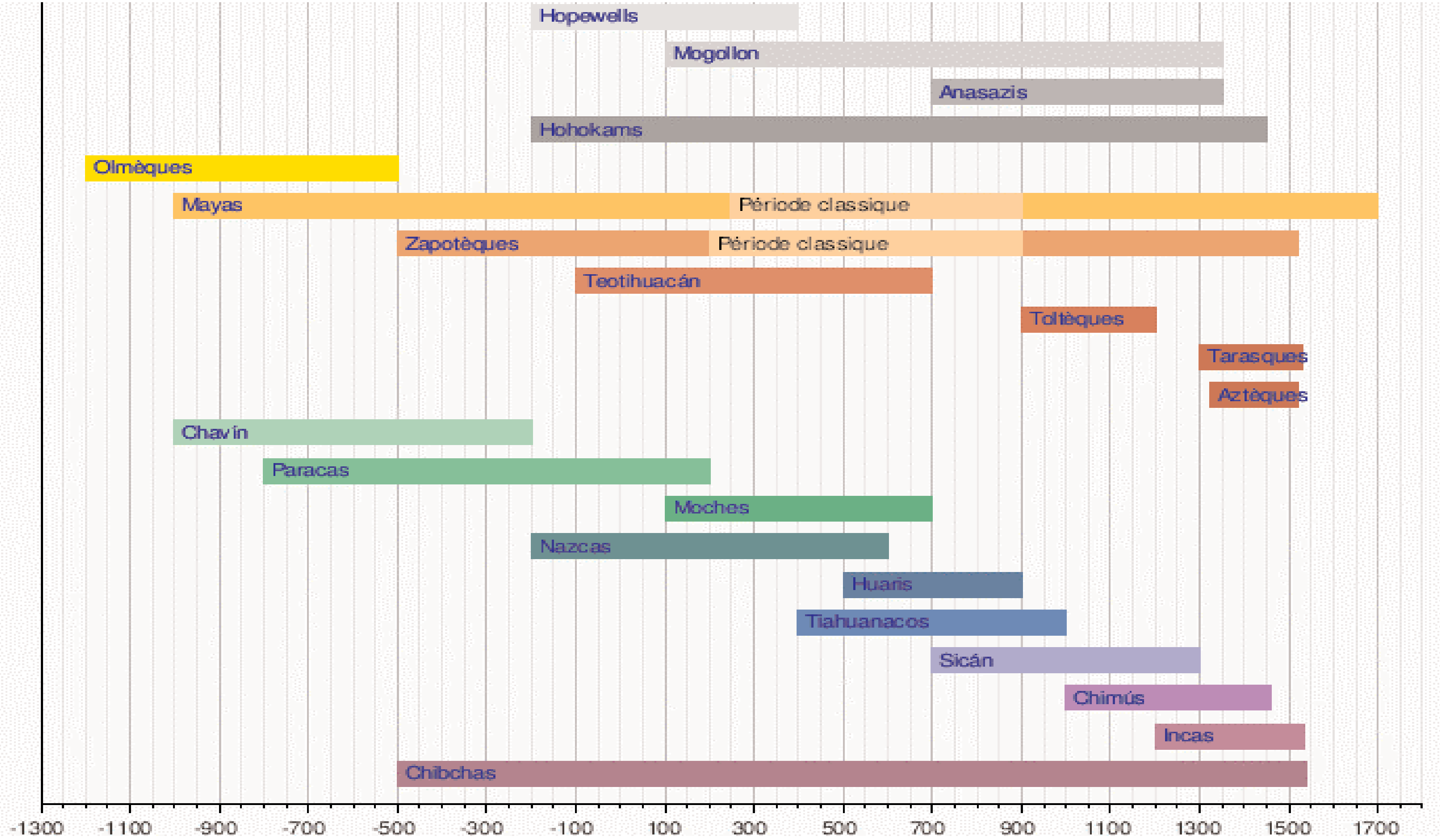
The Native Americans of the North and South are believed to have diverged 17,500 to 14,600 years ago. The South Amerindians quickly reached South America. The Mesoamericans broke up first, followed by South Americans east and west of the Andes. However, ancient individuals in this study from Spirit Cave in Nevada and Lagoa Santa in Brazil, around 10,000 years old, suggest complex demographic events. In the South Native American branch, Spirit Cave is closer to the ancient individual Anzick1, while Lagoa Santa is closer to the current South Native American groups.



The f and D statistics show that Anzick1, Spirit Cave, and Lagoa Santa form a distinct group of mixed Mesoamerican Indians. The models show that the Mixe received gene flow from an unknown group, which the authors call UPopA (Unknown Population A). This population is neither ancient Beringians, nor North American Indians, nor South Amerindians. It separated from other Amerindian populations between 30,000 and 22,000 years ago, thus close to separation with the Siberian and East Asian populations, or the Ancient Beringians with the Amerindians. These results suggest that several population separations took place in Beringia before the descent to America. The authors estimated the UPopA (ghostA in the figure below) ancestry among the Mixe to be around 11% around 8700 years ago. Thus, the common ancestors of Anzick1 and Spirit Cave diverged from the common ancestors of Lagoa Santa and Mixe about 14,100 years ago. Then the ancestors of Lagoa Santa and those of the Mixe separated soon after, about 13,900 years ago. The individuals of Spirit Cave and Lagoa Santa are Paleo Americans with a different skull shape than other Native Americans. On the other hand, the Surui Amazonians have in their genome a signal of ancient Australian ancestry. Former Lagoa Santa individuals also have this ancient Australian signal, but the Spirit Cave individual does not. There is therefore no correlation between the shape of the Paleo-American skull and the Australian signal. Most South Native Americans today do not merge with the ancient individuals of Lagoa Santa, but derive from a genetic mix between the population of Lagoa Santa and an ancient Meso-Native American ancestry according to the D statistic:

On the other hand, the Karitiana of Amazonia and the ancient individuals of Lagoa Santa diverged about 12,900 years ago. The Karitiana then received gene flow (35%) from a Meso-Native American population (ghostM above) that had previously received gene flow from the UpopA population. These gene flows likely diluted the Australian signal that might have been present in older populations. In northwestern America, there was a decrease in precipitation in the middle of the Holocene and an increase in aridity which resulted in a decline in the population. The latter still believed in it about 5,000 years ago. But it is difficult to know if it is the same population. On the other hand, there are indications that the ancestors of populations speaking a digital language arrived in West America only 1000 years ago. However, the cultural changes which took place during this period and which are visible in the archaeological material, are not necessarily linked to a linguistic or biological change. The authors of this study therefore compared the genome of the individual from Spirit Cave to that of individuals from Lovelock Cave. Multiscale and ADMIXTURE analyzes show that these individuals cluster together (see figures above). However, the authors found a flow of Mesoamerican genes in the 700-year-old Lovelock3 genome that does not exist in the 1900-year-old Lovelock2 genome. There is therefore a certain continuity of the population accompanied by the arrival of a new population which could correspond to the arrival of digital languages in the region: there is no replacement of the population. The authors also introduced into this study the genomes of a present-day British Columbia population and a former Southwestern Ontario (ASO) population that are related to the North Algonquin Native American populations. There are differences, however: Ancient individuals from the Pacific Northwest coalesce with the Athapaskans and Tsimshians, while Kennewick Man and ancient individuals from southwestern Ontario move into position. . intermediary between the Amerindians of the North and the South.

Thus the history of this region is marked by genetic mixtures between the North and South Amerindian branches, and by the isolation of groups on the Pacific coast.



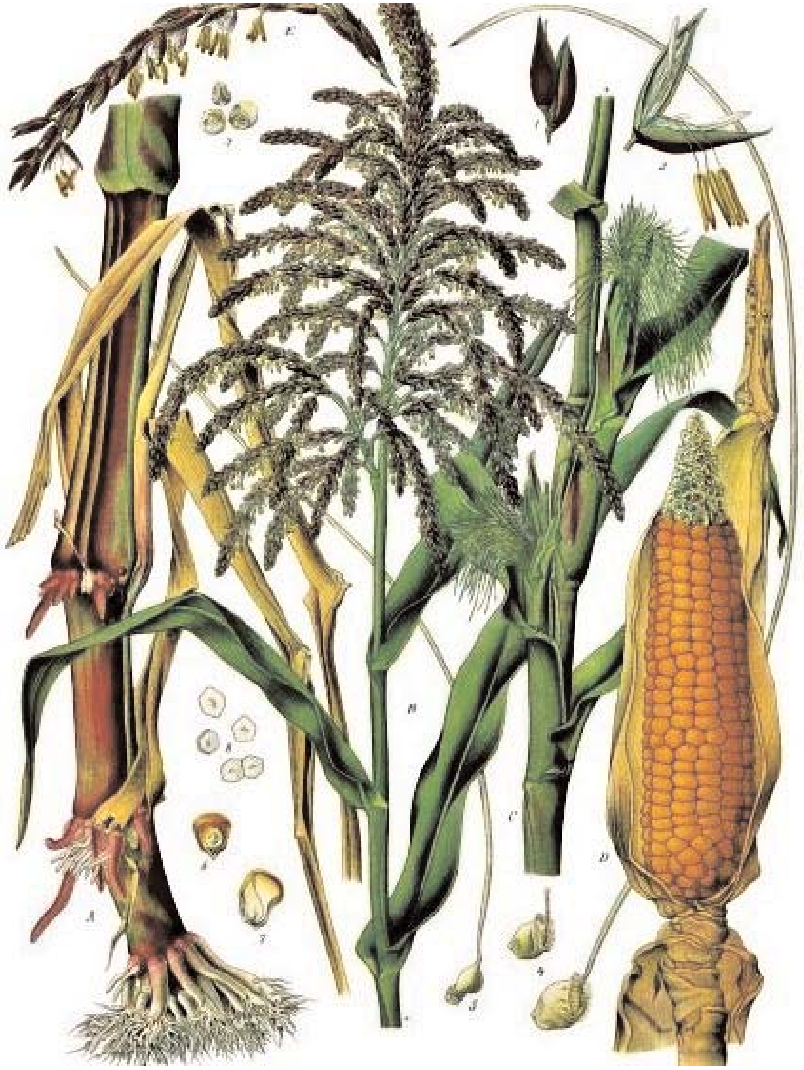
Culture	Période	Localisation
Mayas	du xie siècle av. J.-C. au xvie siècle[21]	De la péninsule du Yucatán (Mexique) au Honduras
Olmèques	du xiiie siècle av. J.-C. au vie siècle av. J.-C.	Côte du Golfe et le long de la côte Pacifique (État du Guerrero, Oaxaca et Chiapas) jusqu'au sud du Costa Rica
Zapotèques	du vie siècle av. J.-C. au viiie siècle	Côte pacifique de l'État d'Oaxaca (Mexique)
Teotihuacán	du iie siècle av. J.-C. au viiie siècle	Ville de Teotihuacán, État de Mexico (Mexique)
Toltèques	du xe siècle au xiiie siècle	État de Mexico (Mexique)
Aztèques	du xive siècle au xvie siècle	Ville de Mexico, principalement, mais aussi jusqu'à l'est de l'État de Veracruz (Mexique)

The corn civilization

In pre-Columbian America, another cereal, corn, also contributed to the development of great civilizations. Maize is grown from teosinte, a modest plant whose ear, in the wild, has only six or seven small kernels. Consumed by Paleolithic hunter-gatherers, teosinte began to be cultivated almost 9,000 years ago in a high valley in Mexico. From this cradle, the ancestors of our current corn spread first throughout Mesoamerica (Mexico, Yucatan, Caribbean ...) then to the south of the continent: 7000 years ago, corn was produced in certain valleys. of the highlands an altitude of 2600 m. Six millennia later, Native Americans successfully acclimatized corn in the temperate regions of the northern United States and Canada.

The cultivation of corn favored the emergence and development of great conquering and building empires, the best known of which were the Mayas, the Aztecs and the Incas. In addition to its nutritional benefits, corn has a double benefit. First of all, this cereal grows quickly, which leaves time for the peasants for other activities such as wars of conquest and the construction of powerful cities with impressive monuments. In addition, in a normal year, the high productivity of corn allows the generation of large surpluses which, exchanged for other goods, constitute a source of wealth.

Maize is widely cultivated for its starchy grains, for daily human consumption and as fodder for animals. A staple food in Central America, corn also has a sacred dimension for the civilizations that populate the American subcontinents, constituting a link between men and the gods: corn has, in many pre-Columbian cultures, a double dimension of gift. divine which allows sustenance. of men and offering of men to gods. Maize is at the heart of cosmogony, that is to say of the representation that populations have of the creation and organization of the universe.



This is the case of the Mayas, a Mesoamerican civilization located in the Yucatan peninsula (currently corresponding to southern Mexico, Guatemala, Honduras, Belize and El Salvador). Between 600 a. CDC and around 1000 AD, Mayan culture developed in city-states, such as Copán, Tikal, Palenque and Chichén Itzá around the cultivation of corn. The word "maya" would mean "corn"; cereal which therefore occupies a primordial place in mythology and in everyday life. Indeed, the Mayans identified themselves as "men of corn" and practiced, using compression tables, cranial deformation from an early age, by parallelism with the shape of an ear of corn.

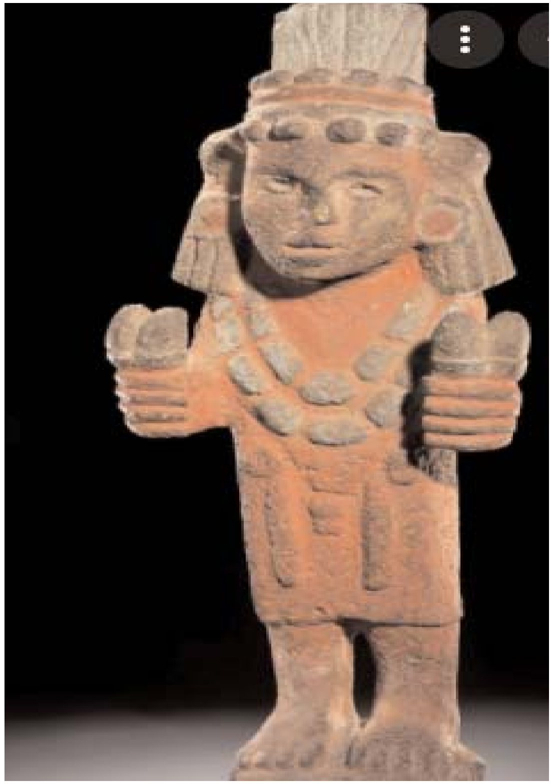
The Aztecs or Mexicas politically succeeded the Mayas from the 13th century to the year 1521. They deified corn under the guise of Chicomecóatl, goddess of subsistence and vegetation, in particular corn and, by extension, goddess of fertility.

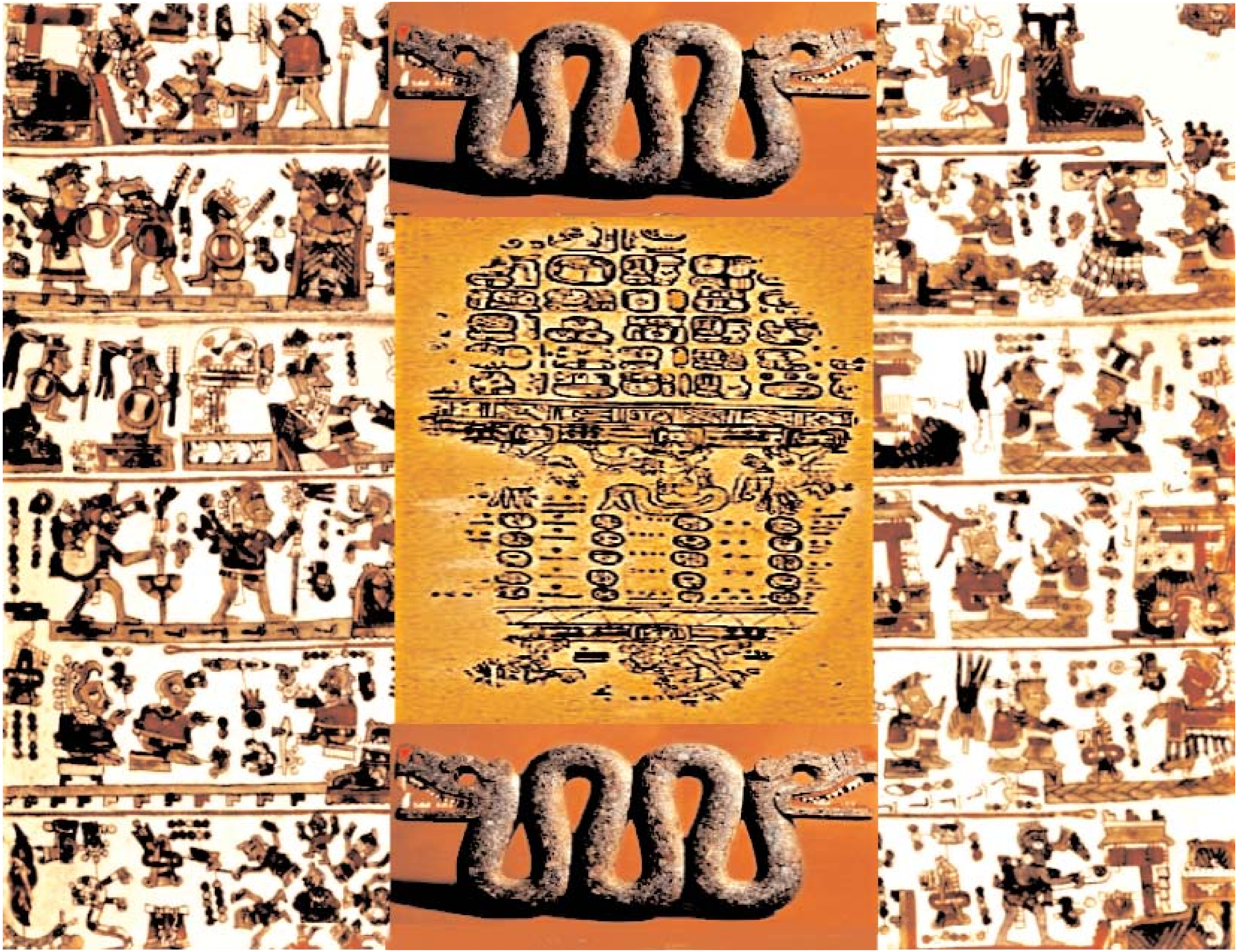
It is also called Xilonen, that is to say "the hairy", thus evoking the silks of tender corn cobs. The Chicomecóatl cult centered on the month of September called huei tozoztli (prolonged fasting). The altars of the houses were adorned with corn plants, and in the temples the seed was blessed. The sacrifices were associated with the cult intended to feed the goddess who had herself ensured the subsistence of human communities. On the other hand, the Mexicas worshiped a deity by stage of maturity of corn (the goddess Ilamatecuhtli symbolized ripe corn, for example, while the Chicomecoatl was associated with young corn), thus recalling, in addition to the daily consumption of this cereal, the importance of the cycle of their culture in the Aztec world.

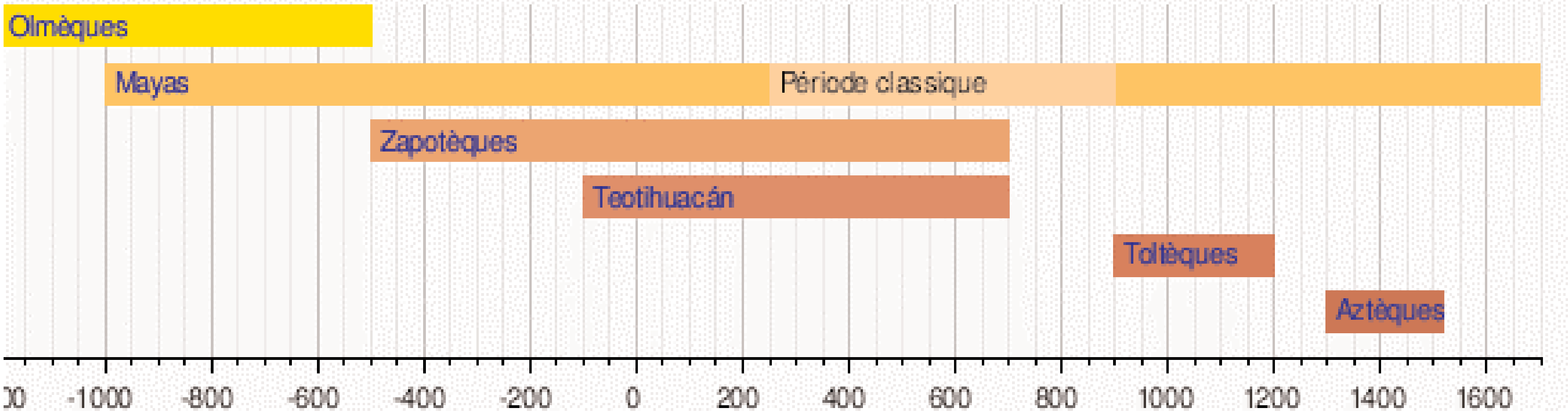
Also in South America, in the Andean regions influenced by the Mayan culture (Ecuador, Peru, Bolivia, Venezuela and Colombia), this cereal occupies a preponderant place in daily life and in beliefs. Thus, shaman priests consumed chicha, a drink made from fermented corn, as part of their spiritual activities. Today, the Mayan culture is still very present in Yucatan and corn continues to be the staple of the diet in Central America. Moreover, if corn is closely linked to the representation of the universe and the gods in Central and South America, in most other continents the cultivation of cereals is reflected in the daily life of a community, where the calendar agrarian serves as a model for social events and rites.

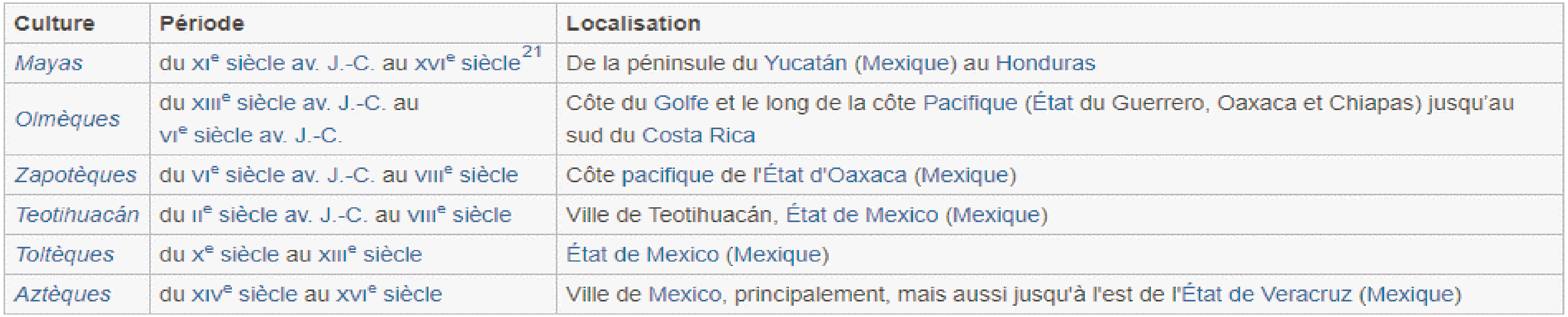
Among the peoples of Central America (Mayas, Aztecs, etc.) as well as among the Incas of the Andes and certain indigenous tribes of the north of the continent, corn represented much more than a food resource. This cereal had acquired the status of a sacred plant and was present in many myths. The Navajo Indians believed that a turkey brought them corn from heaven, while the streams claimed the plant had come to them in the ear of a crow.

The Mayan aristocrats deformed the skulls of their babies to take the oblong shape of a… ear of corn. The "wheat men" (this is the meaning of the Mayan word) saw in this very vertical cereal the union of the ascending force of fire and the descending energy of rain. According to the Popol Vuh, the sacred book of the Mayan people, it is the corn which allowed the creation of the human species ... At the beginning, the gods tried to shape the men with clay, wood and many other materials. All these attempts failed ... until they came up with the idea of kneading them with cornmeal. Another myth tells how humans discovered corn ... They learned from the fox that the ants saw this cereal hidden under a mountain. Then they ask Chac, the rain god, to help them. Which he does by sending lightning bolts across the mountain. A part of the corn turns black because of the smoke which emanates from it, another part acquires the red color of fire; corn that has received only a small amount of heat turns yellow, while corn that has not been struck by lightning remains white.







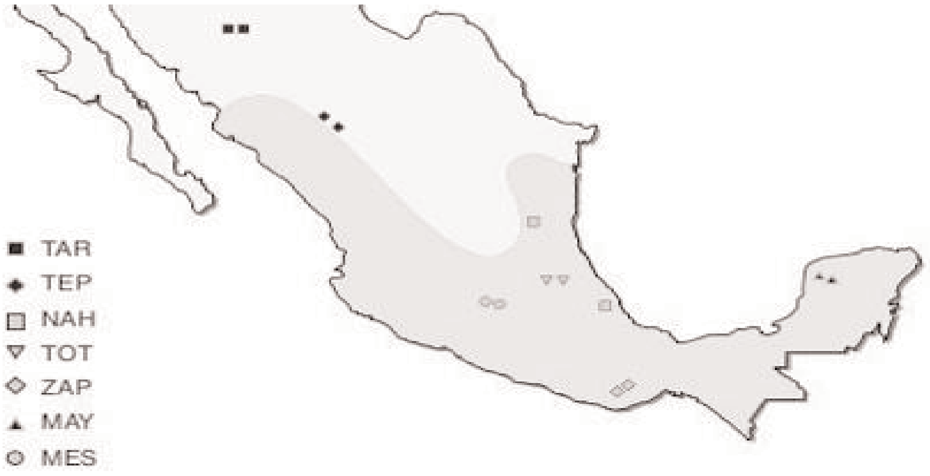


Culture	Période	Localisation
Mayas	du xi^{e} siècle av. J.-C. au xvi^{e} siècle[21]	De la péninsule du Yucatán (Mexique) au Honduras
Olmèques	du xiii^{e} siècle av. J.-C. au vi^{e} siècle av. J.-C.	Côte du Golfe et le long de la côte Pacifique (État du Guerrero, Oaxaca et Chiapas) jusqu'au sud du Costa Rica
Zapotèques	du vi^{e} siècle av. J.-C. au viii^{e} siècle	Côte pacifique de l'État d'Oaxaca (Mexique)
Teotihuacán	du ii^{e} siècle av. J.-C. au viii^{e} siècle	Ville de Teotihuacán, État de Mexico (Mexique)
Toltèques	du x^{e} siècle au xiii^{e} siècle	État de Mexico (Mexique)
Aztèques	du xiv^{e} siècle au xvi^{e} siècle	Ville de Mexico, principalement, mais aussi jusqu'à l'est de l'État de Veracruz (Mexique)

Genomic History of the Native Americans of Mexico

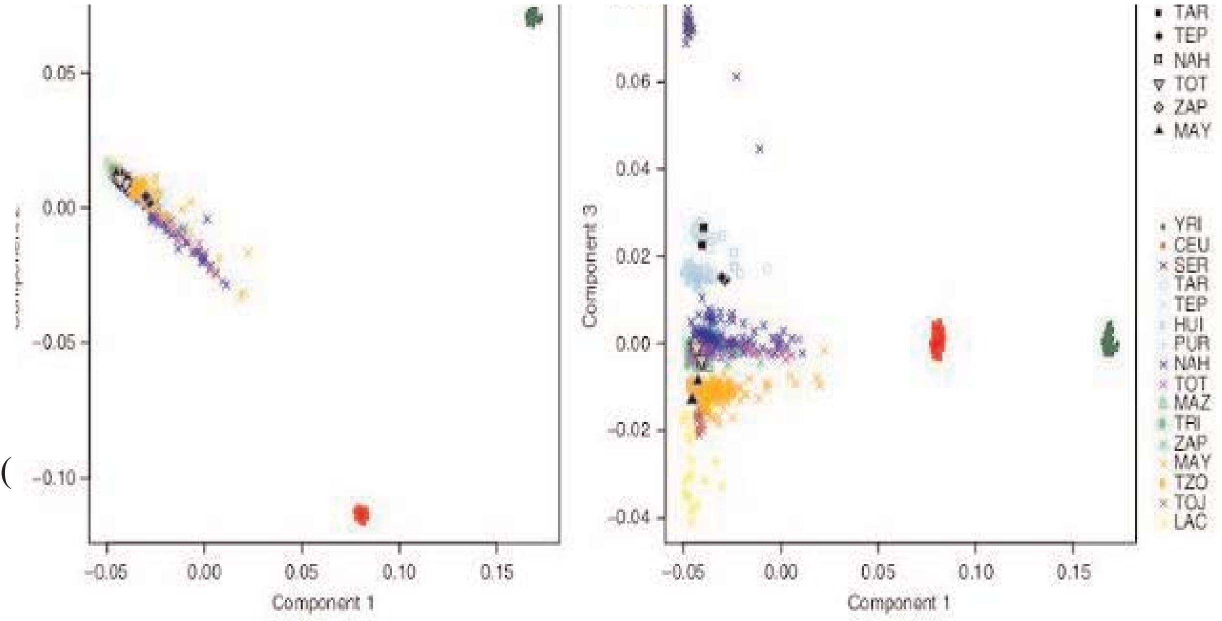
The people of the Americas originated in Northeast Asia about 23,000 years ago, then crossing the Bering Strait before spreading across the continent. The current population is the result of several migrations, genetic mixtures and adaptation processes. In the fifteenth century, before the conquest of Mexico by the Europeans, the territory was occupied by several nomadic and semi-nomadic Amerindian groups. After the Spanish conquest, many processes of genetic mixtures took place, first between Amerindians and Spaniards, then with an African population that came with the slave trade. Currently there are 68 Native American languages known in Mexico. About 21% of the population identifies with one of the Native American groups, and 7% (or approximately 7 million individuals) speak one of the Native American languages.

Paleo-geneticists sequenced the complete genome of 12 Native Americans of Mexico belonging to six different ethnic groups (TAR: Tarahumara, TEP: Tepehuano, NAH: Nahua, TOT: Totonaca, ZAP: Zapoteca and MAY: Maya) and three Métis Mexicans (MES: Mestizo). Amerindian ancestry is estimated to be greater than 98% for all Amerindian individuals except the northern Tepehuanos whose Amerindian ancestry is estimated at 91%:



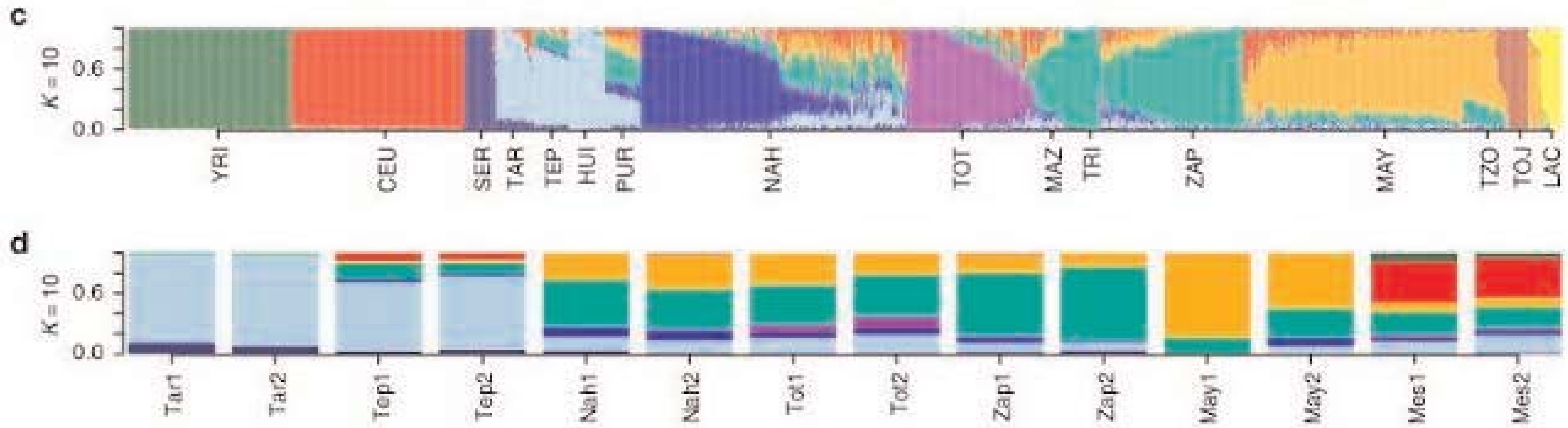
They also analyzed the autosomal DNA of 312 Native Americans from Mexico, obtained by microarrays. Individuals are grouped into three clusters: North, South and Maya.

The authors performed a Multi-scale Analysis. Figure a below represents the first two components that clearly separate Africans in dark green, Europeans in red and Amerindians on the left (the 12 sequenced individuals are in black and gray):



Finally, the third component visible in figure b above makes it possible to separate the Amerindians. The Seri (SER) are at the top left (dark blue cross) while the Lacandona (LAC) are at the bottom left (yellow crosses).

The authors also performed an analysis with the ADMIXTURE software. The sequenced individuals are shown in Figure d below. The analysis is optimal for a value of K = 10. The African component is represented in dark green, the European component in red:



The analysis thus makes it possible to identify a Seri component in dark blue, Huichol in blue gray, Nahua in blue, Totonaca in purple, Zapoteca in light green, Maya in orange, Tojolabal in brown and Lacandona in yellow. Among sequenced Native Americans, the Tarahumara and Tepehuano have the highest proportion of northern ancestry in blue gray. The Nahua and Totonaca show the most mixture of components. The diversity of Nahua individuals is probably a consequence of the expansion of the Aztec Empire in the 15th and early 16th centuries.

The authors also built a tree with the TreeMix software from the 12 Amerindian genomes, 11 genomes of the world population and 4 ancient individuals: Neanderthal, Denisova, a former Amerindian: Anzick and a former Siberian from Mal'ta:

The tree above clearly separates the Amerindian groups of the North (Tarahumaras and Tepehuanos) from those of the South (Totonacas, Zapotecas, Nahuas, Mayas and Karitiana). The flow of genes from the Siberian population linked to the Mal'ta boy to all Amerindian

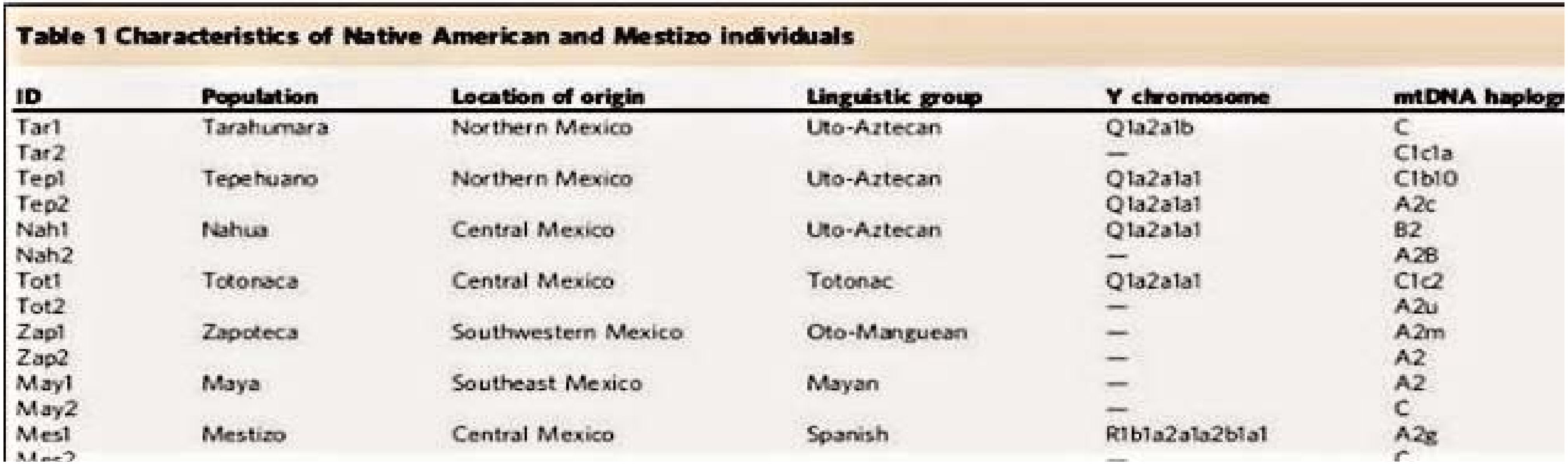
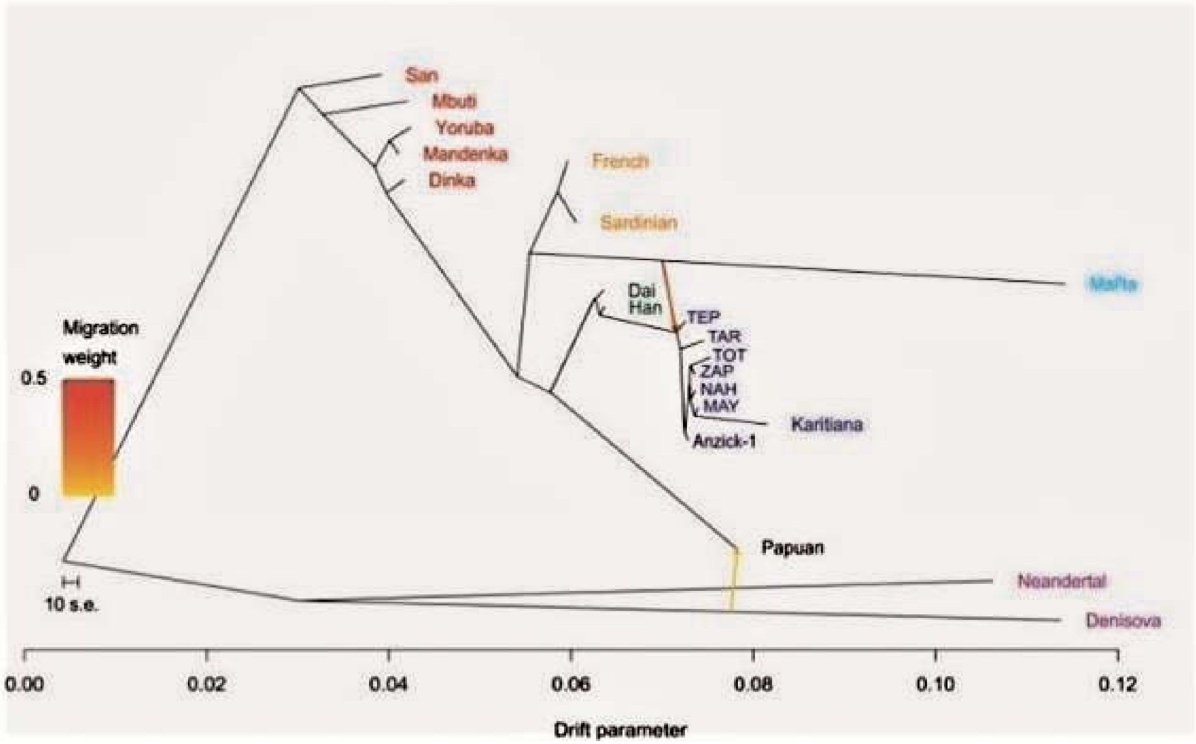


Table 1 Characteristics of Native American and Mestizo individuals

ID	Population	Location of origin	Linguistic group	Y chromosome	mtDNA haplog
Tar1	Tarahumara	Northern Mexico	Uto-Aztecan	Q1a2a1b	C
Tar2				—	C1c1a
Tep1	Tepehuano	Northern Mexico	Uto-Aztecan	Q1a2a1a1	C1b10
Tep2				Q1a2a1a1	A2c
Nah1	Nahua	Central Mexico	Uto-Aztecan	Q1a2a1a1	B2
Nah2				—	A2B
Tot1	Totonaca	Central Mexico	Totonac	Q1a2a1a1	C1c2
Tot2				—	A2u
Zap1	Zapoteca	Southwestern Mexico	Oto-Manguean	—	A2m
Zap2				—	A2
May1	Maya	Southeast Mexico	Mayan	—	A2
May2				—	C
Mes1	Mestizo	Central Mexico	Spanish	R1b1a2a1a2b1a1	A2g
Mes2				—	C

populations is also shown (orange arrow).

Demographic reconstruction with PSMC and MSMC methods shows that non-African populations suffered a genetic bottleneck between 60,000 and 50,000 years corresponding to leaving Africa. In addition, the Amerindian populations then show a low value of the effective population of the order of 2000 individuals up to 20,000 years, a date corresponding to the position of the population in Beringia before spreading to the Americas. This population remains low until 10,000 years. Then the population of South America is constantly increasing unlike the population of North America which decreases until 4000 years.



However, we note discoveries that call into question the general pattern of the colonization of America by the Amerindians. Some specialists believe that the settlement of the American continent does not have a single origin. Theories speak of Oceanic peoples who would have crossed the Pacific Ocean (theory advanced by Paul Rivet), or of European peoples (hypothesis of archaeologist Dennis Stanford who indeed believes that a tribe could have come from Europe there is 12,000 to 36,000 years old, and today it would correspond to a very small group of indigenous people: the Ojibwe, the Nuu-Chah-Nulth, the Sioux and the Yakamas, but more recent genetic studies contradict this thesis.

The other problematic question is that of the date of settlement. Here again, the work of archaeologists seems to push the origin of the settlement back to earlier times than has long been believed:

The bones of Peñon's wife (around 13,000 years old), discovered near Mexico City, also exhibit Europoid features. Mummies were unearthed under several meters of guano deposits in Lovelock Cave in 1911 by harvesters. They were of the europoid type. They were dated to about 5,000 years by radiocarbon analysis 14. Others were discovered in 1931 of the same type not far from Lovelock cave.

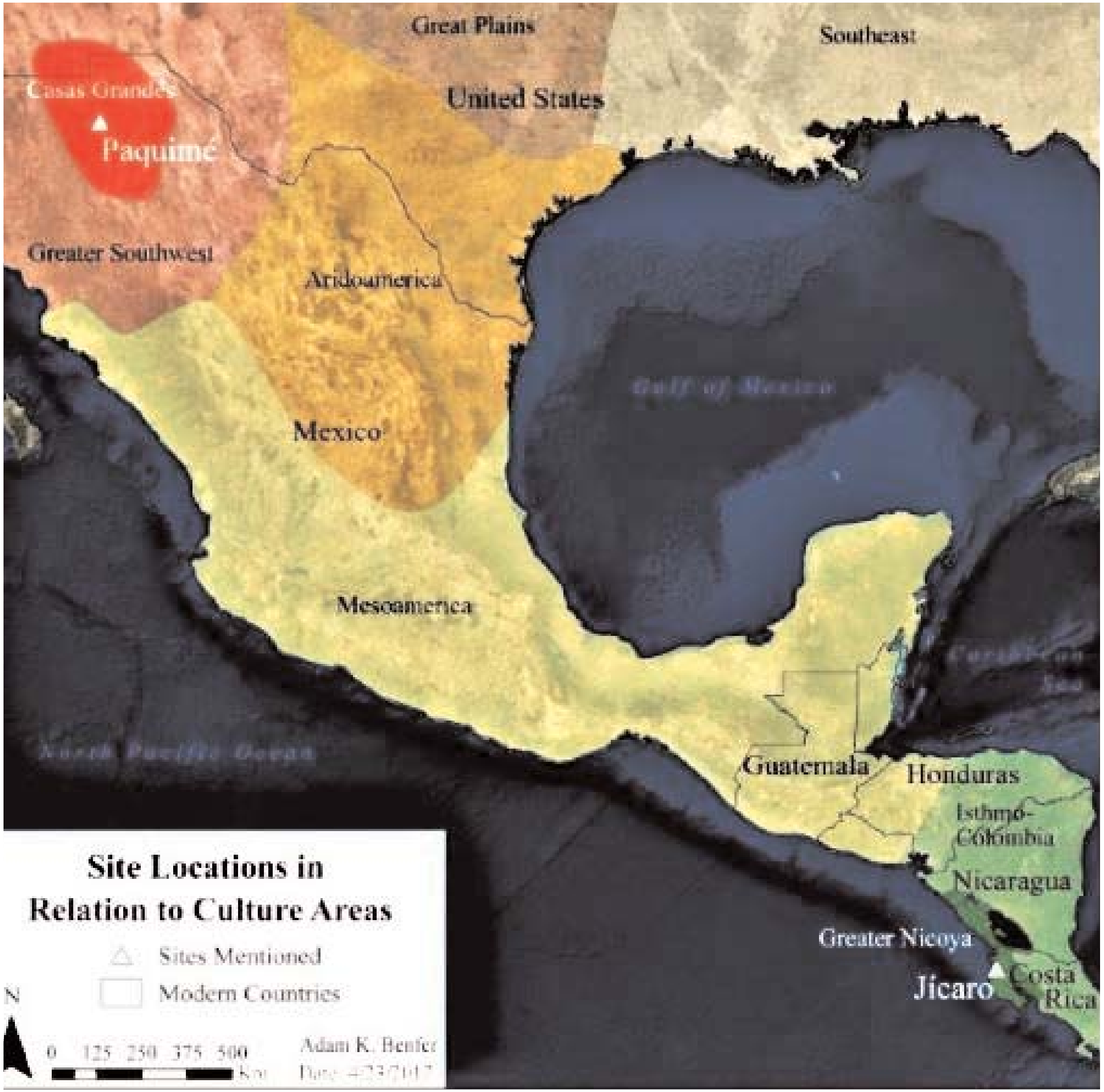
Ancient mitochondrial DNA in Central America and Mexico

The contemporary Native American population of Central America and Mexico presents a great cultural, linguistic and genetic variety. Nearly 300 different ethnic groups coexist in this vast region between northern Mexico and southern Panama. This region can be divided into four main cultural zones: the Great Southwest in the Northwest of Mexico, arid America in the Northeast of Mexico, Mesoamerica and the Isthmo-Colombian area (see figure below). Archaeological evidence has shown a continuity of human occupation in this region, for at least 10,000 years.

The arrival of Europeans after 1492 led to a decline and the disappearance of several groups. Today, the different movements and distribution of local populations before the arrival of Europeans remain unclear, especially in the peripheral regions of the great Pre-Columbian cultures, where the ancient Greater Nicoya and Casas Grandes cultures thrived.

During the Classical (AD 200-900) and Post-Classical (AD 900-1519) periods, complex Mesoamerican societies such as the Mayas and Aztecs exerted considerable influence in the region and beyond. It has long been postulated that border cultures like Greater Nicoya or Casas Grandes represent advanced settlements. These two cultures show influences and trade over long distances with the Mesoamerican cores. However, archaeological evidence is insufficient to identify the origin and migratory history of these populations.

Ana Morales-Arce and her colleagues have just published a paper entitled: Successful reconstruction of whole mitochondrial genomes from ancient Central America and Mexico. They analyzed the mitochondrial DNA of 14 individuals from four archaeological sites in Central America and Mexico: Jícaro and La Cascabel from the Greater Nicoya culture in northwestern Costa Rica, and Paquimé and Convento from the Casas Grandes culture. in Northwestern Mexico:

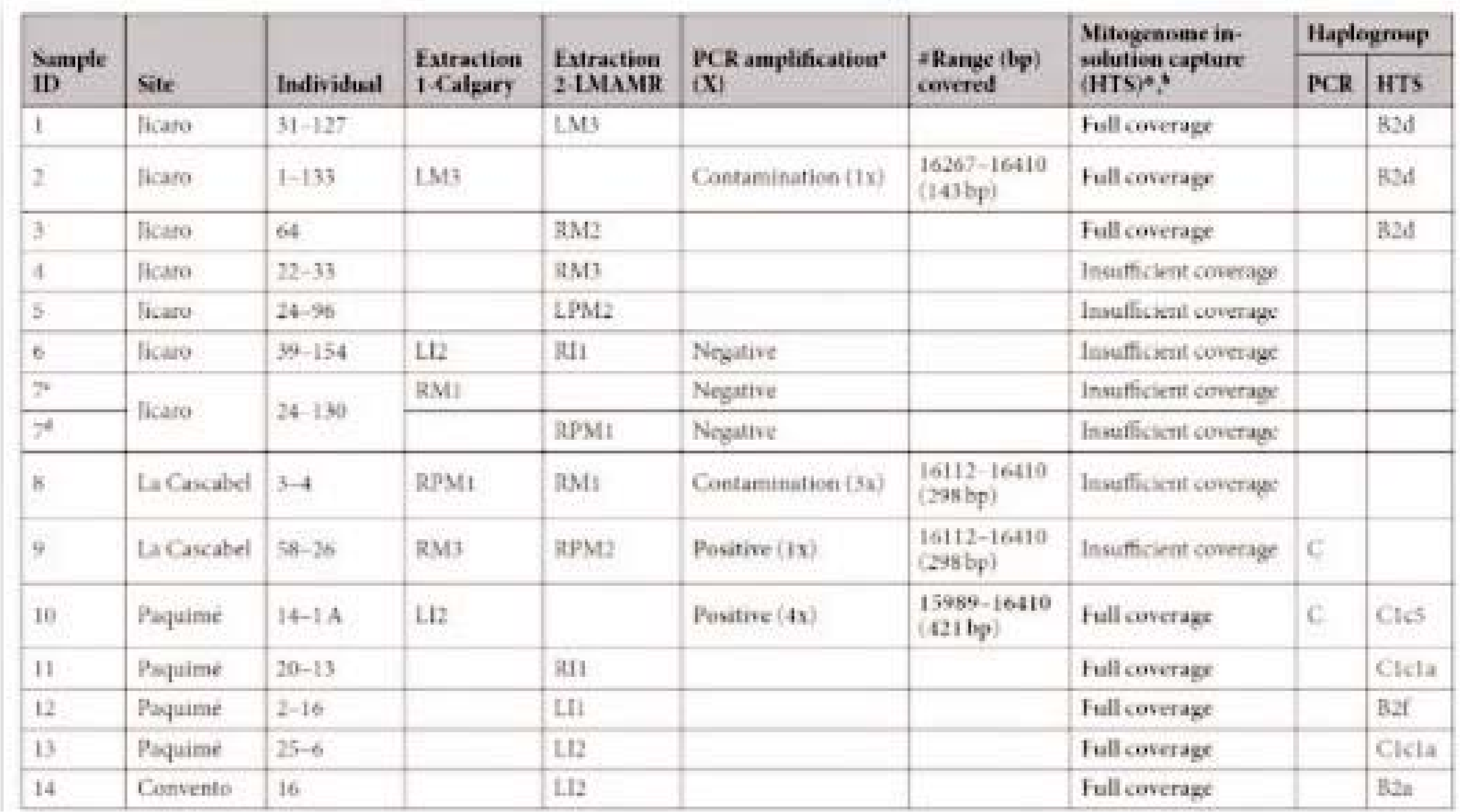


Traditional methods of old DNA extraction (PCR amplification and SANGER sequencing) gave few results (only two samples). Conversely, new generation sequencing methods gave more results (eight samples):

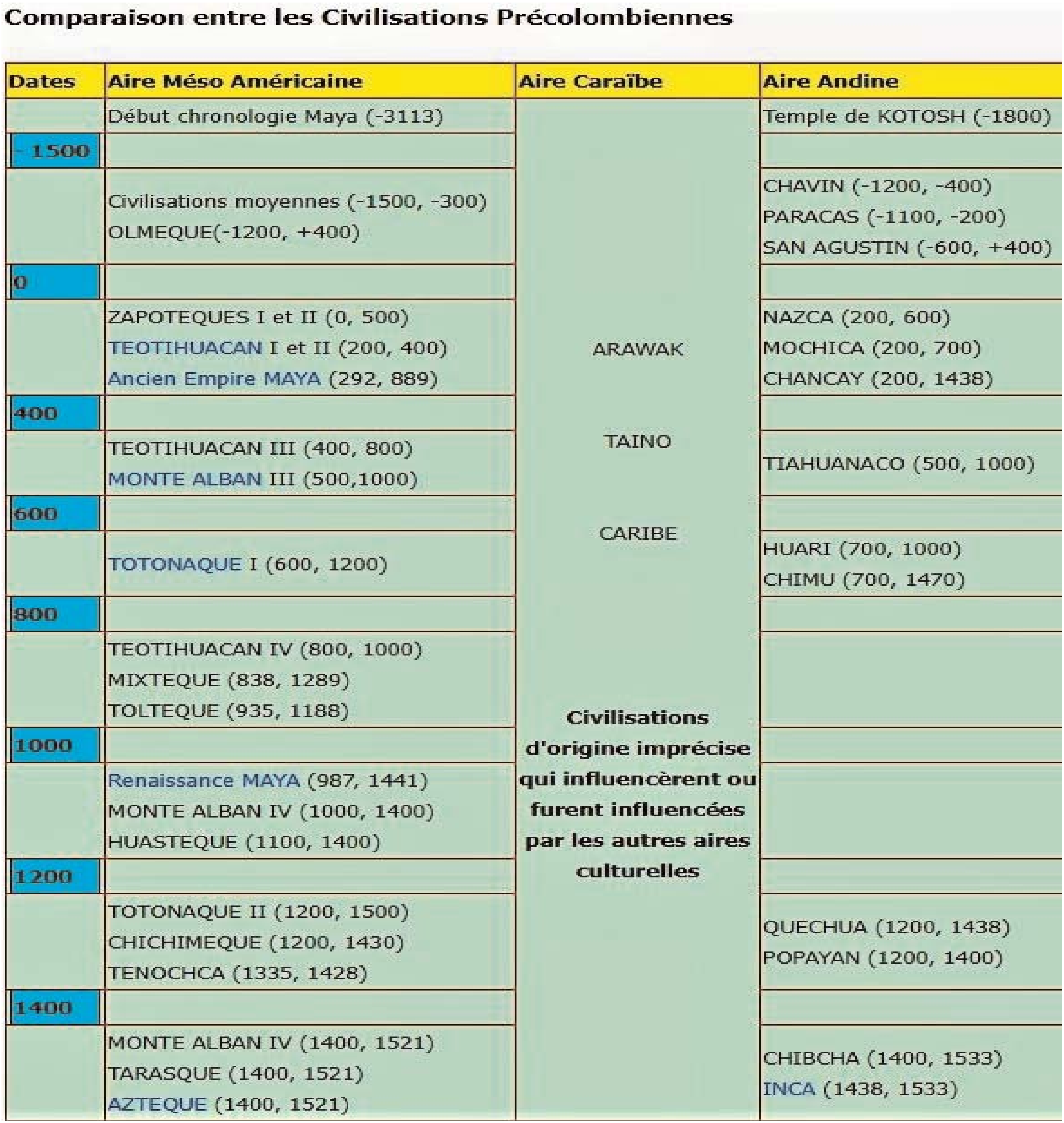
The eight mitochondrial sequences obtained belong to haplogroups B and C. All the haplotypes are different.

The three individuals of Jícaro all belong to haplogroup B2d, but because their haplotypes are different, they are not maternally close relatives. This B2d branch has been detected in current populations of the Arawak ethnic group of the Wayuu of Colombia and the Chibchan Ngöbe of Panama. The five sequences of the Casas Grandes sites belong to the haplogroups B2a, B2f, C1c1a and C1c5. The B2a branch has been observed in Native American groups such as the Tsimshian, Chippewa, and Pima. Branch B2f has been observed in Native Americans in Mexico, branch C1c1a in Native Americans in the United States, and branch C1c5 in Native Americans in Mexico.

In general, the results obtained on ancient individuals from the peripheral regions of the great Mesoamerican cultures such as the Aztecs and the Mayas show a greater genetic affinity with the current populations of these peripheral regions than of Mesoamerica.



Sample ID	Site	Individual	Extraction 1-Calgary	Extraction 2-LMAMR	PCR amplification[a] (X)	#Range (bp) covered	Mitogenome in-solution capture (HTS)[a],[b]	Haplogroup	
								PCR	HTS
1	Jicaro	31–127		LM3			Full coverage		B2d
2	Jicaro	1–133	LM3		Contamination (1x)	16267–16410 (143 bp)	Full coverage		B2d
3	Jicaro	64		RM2			Full coverage		B2d
4	Jicaro	22–33		RM3			Insufficient coverage		
5	Jicaro	24–96		LPM2			Insufficient coverage		
6	Jicaro	39–154	LI2	RI1	Negative		Insufficient coverage		
7[c]	Jicaro	24–130	RM1		Negative		Insufficient coverage		
7[d]				RPM1	Negative		Insufficient coverage		
8	La Cascabel	3–4	RPM1	RM1	Contamination (3x)	16112–16410 (298 bp)	Insufficient coverage		
9	La Cascabel	58–26	RM3	RPM2	Positive (1x)	16112–16410 (298 bp)	Insufficient coverage	C	
10	Paquimé	14–1 A	LI2		Positive (4x)	15989–16410 (421 bp)	Full coverage	C	C1c5
11	Paquimé	20–13		RI1			Full coverage		C1c1a
12	Paquimé	2–16		LI1			Full coverage		B2f
13	Paquimé	25–6		LI2			Full coverage		C1c1a
14	Convento	16		LI2			Full coverage		B2a



Comparaison entre les Civilisations Précolombiennes

Dates	Aire Méso Américaine	Aire Caraïbe	Aire Andine
	Début chronologie Maya (-3113)	ARAWAK TAINO CARIBE **Civilisations d'origine imprécise qui influencèrent ou furent influencées par les autres aires culturelles**	Temple de KOTOSH (-1800)
-1500			
	Civilisations moyennes (-1500, -300) OLMEQUE(-1200, +400)		CHAVIN (-1200, -400) PARACAS (-1100, -200) SAN AGUSTIN (-600, +400)
0			
	ZAPOTEQUES I et II (0, 500) TEOTIHUACAN I et II (200, 400) Ancien Empire MAYA (292, 889)		NAZCA (200, 600) MOCHICA (200, 700) CHANCAY (200, 1438)
400			
	TEOTIHUACAN III (400, 800) MONTE ALBAN III (500,1000)		TIAHUANACO (500, 1000)
600			
	TOTONAQUE I (600, 1200)		HUARI (700, 1000) CHIMU (700, 1470)
800			
	TEOTIHUACAN IV (800, 1000) MIXTEQUE (838, 1289) TOLTEQUE (935, 1188)		
1000			
	Renaissance MAYA (987, 1441) MONTE ALBAN IV (1000, 1400) HUASTEQUE (1100, 1400)		
1200			
	TOTONAQUE II (1200, 1500) CHICHIMEQUE (1200, 1430) TENOCHCA (1335, 1428)		QUECHUA (1200, 1438) POPAYAN (1200, 1400)
1400			
	MONTE ALBAN IV (1400, 1521) TARASQUE (1400, 1521) AZTEQUE (1400, 1521)		CHIBCHA (1400, 1533) INCA (1438, 1533)

LPre-Columbian cultures are studied according to their areas of cultural diffusion: Mesoamerica (from the states of Tamaulipas and Sinaloa in Mexico to the northwest of Costa Rica); Circumcaraïbe area (Antilles, southern Central America, Costa Rica, Panamá, coasts of Colombia and Venezuela on the Atlantic, and, in the south, as far as Guyana); Andean area (Andean zone to Chile).

Most pre-Columbian civilizations evolve within a chronology divided into three major periods, themselves subdivided and which define the styles:
- the Preclassic period (around 2000 BC-around 250 AD) includes the old Preclassic (around 2000-around 1000 BC), the middle Preclassic (around 1000-around 300 BC) and the Late or Late Preclassic (around 300 BC - around 250 AD);

- the classical period (c. 250 AD-950 AD) includes the old or lower classical (c. 250-c. 600) and the recent or higher classical (c. 600-c. 950);

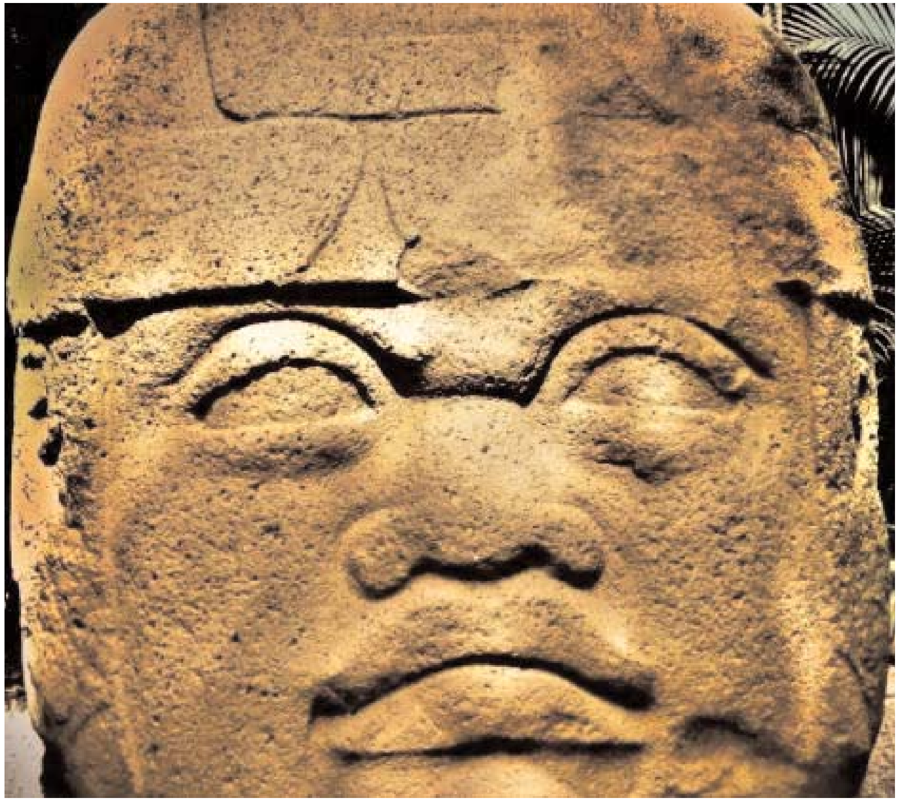
- the postclassic period (c. 950-1500) includes the early postclassic (c. 950-1200) and the recent postclassic from 1200 to 1500.

The Olmecs - The "mother" of all the others Mesoamerican cultures.

The Olmec culture (also referred to simply as the Olmecs) was a pre-Columbian culture that inhabited Mesoamerica from the Formative Period (around 2000 BC) to the Classical Period (400 BC). She is believed to have been the "mother" of all other Mesoamerican cultures.

The origins of the Olmec civilization?
The term "Olmec" (Olmecatl) means in the Aztec language "inhabitant of the rubber region" and is the only word we have to call this civilization. In fact, we don't know what the Olmecs were called. It is possible that this name was given by the Mexica Empire to the inhabitants of the region of the present-day Mexican states of Veracruz and Tabasco for centuries, without distinguishing their cultural or linguistic origin.

The Olmecs are traditionally considered to be the inaugurators of a Mesoamerican artistic and architectural style, the ruins of which are still abundant, from Jalisco to Costa Rica. The construction of pyramids and ceremonial centers, the ruins of which inspired other later cultures. Their designs were then adopted by later cultures in the region. This would mean that the Olmec culture remained alive even after its decline.



Geographical location of the Olmecs
The Olmecs appeared in the southeastern region of present-day Mexico, particularly in the states of Veracruz and Tabasco. Later, their influence spread throughout the Mesoamerican region, in the territories of present-day Guatemala, Belize, El Salvador, Nicaragua and Honduras.

There is evidence of their origin in Chiapas and the central valleys of Oaxaca, as well as in the Isthmus of Tehuantepec. But their main ceremonial centers were: San Lorenzo (1150 BC), La Venta (1750 BC) and Tres Zapotes (900 BC).

Economy of the Olmec civilization
It is likely that the Olmec economy was primarily agricultural, but with a significant margin for trade with neighboring peoples through extensive and elaborate trading networks.

They were the first connoisseurs of cocoa, which they knew how to transform into primitive forms of chocolate. They played an unknown sport, in which they used rubber balls on specially designed pitches.
In this way, their culture was adopted and spread across the continent, as it was valued by other cultures. Rubber, abundant in the region, may have served as a commodity.

Religion and deities of the Olmec culture

Everything indicates that the Olmec culture was deeply religious. It was a theocratic, polytheistic era, with predominantly agricultural deities, who represented the stars, volcanoes, and other aspects of the cosmos.

They had sacred animals, like the jaguar, which they revered abundantly. They also worshiped toads, caimans and a whole vast mythology of beings having the head of one and the body of the other.

It is believed to be a dynastic religion, that is, it directly linked its rulers to the gods, as if they were their heirs. But it was a complex religion that has yet to be fully deciphered.

By settling down, the Olmecs would have founded the first cities of Mesoamerica, a cultural area stretching from northern Mexico to Costa Rica. Among these we can retain El Tajin, Tres Zapotes, La Venta and San Lorenzo. These cities were the places of residence of the lords and reproduced by their characteristic architecture - pyramids, artificial earthen mounds, temples, stelae - a whole cosmic symbolism. The Olmec cosmogony was also subsequently diffused among all the peoples of Mesoamerica. Jade, which is found a lot in this civilization, was considered a metaphor for water, but also blood. It is in this an index of human sacrifice, a practice taken up by other peoples and that the Olmecs had initiated during rituals to obtain water. Likewise, the winged serpent, which is reminiscent of the feathered serpent of Teotihuacán, appears among the Olmecs in connection with fertility rituals. It was indeed brought closer to humidity, thunder and the sky.

By placing the human figure at the heart of its inspiration, the iconography of this civilization has informed us rather well about its physical type. We imagine them adorned with facial paintings, slanted eyes, full lips and probably flattering noses. Obesity was also seen as a sign of high social status. The colossal heads of Tres Zapotes, La Venta and San Lorenzo, made from heavy monolithic blocks weighing several tons, have become the most famous representatives of Olmec art. Unfortunately, the stuccos and paintings that covered them have disappeared, leaving the door open to various interpretations. Some see it as portraits of chiefs, others as trophy heads obtained by the beheading of captives, the absence of expression suggesting that they are the heads of dead people.

Social organization of Olmec culture

Little is known about how the Olmecs were organized, but judging by the complexity of their representations, it is likely that they had a complex society, with diverse fields, in which warriors and soldiers had a leading role.

Clothing of the Olmecs

Judging by the art and the preserved Olmec statuettes, this culture probably wore light clothing of cultivated cotton. They also used various methods of personal adornment depending on the activity performed and their place in the social order and its hierarchies.

Nostrils, feathers, nose rings, and pectoral earrings were probably common in men, especially warriors. The women wore huipil and quechquemitl, with skirts underneath.

Contributions of the Olmec civilization

The Olmec civilization made a significant contribution to Mesoamerican culture and, indirectly, to human civilization, through the development of a particular artistic, architectural and philosophical style, in addition to the discovery of rubber or natural latex, originating of hevea.

His imposing buried sculptures, which have the shape of a giant head (3 meters) and were later reproduced by other local cultures, whether in writing, monumental cities, religious rituals, the calendar or social structures, many pre-Columbian cultures find their source in this civilization.

But the distant plundering of the sites, the difficult reading of the glyphs, the oldest writing in Central America, and the disappearance of the painted elements mean that so many gray areas still persist among this original people of the Mesoamerican world.
But the Olmecs are best known for having fashioned gigantic heads from monoliths weighing several tons, which "are neither of extraterrestrial nor African origin!", Hastens to specify Ann Cyphers. Because since their exhumation, a tenacious myth surrounds these strange faces, born from the comments of a Mexican antiquarian, José Maria Melgar y Serrano, who observed the first one unearthed in 1862 by a peasant in Veracruz. "He had found it a little 'Ethiopic'", explains the archaeologist who recalls that no scientist at the time envisaged the existence of advanced societies in America. Since Bonaparte's campaigns in Egypt and the discovery of Nineveh in Iraq, all attention was indeed focused on the Middle East. "The presence of Phoenicians or even Africans in America was a popular theory at the time," continues Ann Cyphers. "It was a way of denying to the American populations the aptitude to be at the origin of powerful civilizations, specifies Caterina Magni, specialist of the Olmecs. However no relation was never established between the African continent and Mesoamerica." What genetics recently confirmed, adds anthropologist Enrique Villamar Bercerit of Unam: "A pioneering study of mitochondrial DNA taken from human remains has concluded that the Olmecs have an undeniable American origin.

Zapothèques

The Zapotecs appeared around 1500 BC, in the Oaxaca Valley, where agriculture boomed thanks to several irrigation systems. Monte Alban, its capital, was founded in the 5th century BC. It stands on an eminence, leveled at its top with considerable work. Funerary and religious city, it is the finest achievement of this culture which, very early on, developed a glyphic script and used a number notation system similar to that of the Mayans (one point for unity, one bar for five units). The central square and the astronomical observatory of Monte Alban date from the first phase of occupation, which extends until the 1st century AD, as does the Palace of the Danzantes, of Olmec influence, adorned with figures at the bottom relief.

Most buildings however date from the classical period (250-800). The population then reached 30,000 inhabitants. The houses occupied the terraces below the large esplanade, reserved for ceremonies. The square was surrounded by temples coated with painted stucco. In Monte Alban more than elsewhere, the architects used the column to support the roofs of the large rooms.

Convinced that there was life in the hereafter. The Zapotecs built tombs with large underground chambers, adorned with frescoes depicting divinities, as can be seen from the recently discovered tomb at Huijazoo, 30 km west of Monte Alban. They placed in these burials their famous urns, terracotta statues incarnating the many gods of their pantheon, dressed in sumptuous costumes and jewels. Monte Alban declined from the 9th century before becoming a Mixtec necropolis.

Zapotec Matriarchy: the most ancient living matriarchal society

Juchitán de Zaragoza is a city of 100,000 inhabitants, in the Oaxaca Valley in Mexico, on the edge of the Isthmus of Tehuantepec, and a hub of world trade, as it is located on a road connecting North America to South America. The population is predominantly Zapotec. Only women still speak the language of this civilization almost two thousand years old. This preserved language allowed them to develop a remarkable feminine solidarity which is the basis of their matrilineal society.

The Notorious Power of Zapotec Women

The Native American Handbook refers to "the notorious power of Zapotec women" who call themselves Tehuanas. Women are heads of families, control wealth and represent the community on the outside. Only women go to the market.

"The most popular hobby in the Tehuanas market, and one that causes a lot of laughter, is making fun of an individual, especially when the object of the mockery is a man." (The writer here was offended by the use of nicknames that women have given him, such as "turtle", "city woman", "big teeth", "little pig", "big testicles"). There is strong solidarity among all women, and the elderly are highly respected. The majority of indigenous healers are women.

Ancient origins

The Zapotec civilization was a pre-Columbian Native American civilization that flourished in the Oaxaca Valley in southern Mesoamerica and developed a society of matriarchal structure. The particularly advantageous position of women in the Zapotec matriarchal culture means that they are still known today for their tolerance towards certain forms of male homosexuality. Note also the special place of homosexuals "with a woman's heart". These muchés are the only ones to be allowed in certain circumstances to share the rituals or the activities of the women. Indeed, men with a "woman's heart" (referred to as muxhe) are socially accepted as an additional gender.

A tolerated homosexuality

Wrongly explained by the fact that the virginity of women before marriage is considered essential (Spanish contribution?), It is not uncommon to see young men forming couples with muches, who are often considered to be people of pleasant company. These couples are however generally ephemeral, heterosexual couples being the norm for the formation of the family nucleus. However, the Zapotec's great tolerance for muche contrasts with what happens elsewhere in Mexico, so it is not uncommon to see muche immigrate to Zapotec country to live there more serenely.

Matrilineality of inheritance

As you might expect, mother and motherhood play an important role in this society.

The name, the house, the heritage pass through women and the birth of a girl is therefore a great joy. At the age of fifteen, the young girl - queen of the day - was enthroned following an initiation ceremony. Marriage is also the subject of practices parallel to Catholic ceremonies. Following these, the husband, lost to his family, will go to live in his wife's house (matrilocal marriage).

Husband evicted from his wife's house

Matrilocal residence really gives the advantage to the woman, since she can expel her husband from her home, as happens among the Pueblo. It is certainly a superiority in marital relations, but the situation of the man is not as seriously affected by it as it would seem at first sight, since it is always free for him to take refuge with his mother or his sisters. ; he always finds a shelter, because of a recognized right to be domiciled in his own female relatives.

A female economy

A regional economy has always dominated here, which is also based on exchanges with other ethnic groups in the region. Women have appropriated the commerce in the region and, consequently, the economic power. Men, for their part, have low-income agricultural activities. They are farmers, fishermen, artisans and day laborers. They give their products and their wages to women.

The Mixtec people

The Mixtecs are known as one of the main rivals of the Aztecs, although sooner or later they were subdued by their empire.
This culture was one of the most developed and prosperous in Mesoamerica along with the Zapotecs, establishing a vast trading network, developing sophisticated art, and organizing itself politically into small kingdoms and independent cities.

Geographical location of the Mixtec civilization

The Mixtec civilization originated in the western highlands of Oaxaca in the 7th century and lasted until 1350. Due to the geological characteristics of the region (very rugged terrain), the Mixtecs organized themselves into independent seigneuries. The most important were Tilantogo, Coixtlahuaca, Teozacoacoalco and Yanhuitlán.

It was not until AD 750 that the Mixtecs began to populate the valleys of central Oaxaca and thus took control of Zapotec towns such as Mitla, Yagul and Zaachila. The first of them became the most important Mixtec center.

Mixtec customs and traditions

As we have mentioned, the Mixtecs shared many traits with their neighbors the Zapotecs, as well as with the Mayans and Aztecs. Their traditions and mythology were very similar to those of other Mesoamerican peoples, especially centered on the solar deity Yya Ndicahndíí or Taandoco.
The Day of the Dead ritual, while not of Mixtec origin, at least the way it was celebrated, is believed to have had a great influence on people in present-day Mexico.

The Mixtec religion was animist and polytheistic, as was the case in most Mesoamerican religions. As a protective deity, they had Dzahui, who personified the rain. This deity is very similar to the god Tlaloc, present in the Teotihuacan and Toltec pantheon. With this one, we also find the god of fire Huehuetéotl, very venerated in Lower Mixed.

To satisfy the gods, the Mixtecs practiced human and animal sacrifices, which were staged in their temples built in caves or peaks, the main one being Apoala. Priests had great importance in the social structure, acting as supreme religious leaders.

Their rituals sometimes did not involve killing anyone, but they would extract blood and body parts, such as human ears and tongues, to show their loyalty and reverence to the gods, by throwing the limbs into ceremonial baskets.

But it wasn't all bloody rituals and amputations. They also celebrated ceremonies with ceremonies and ceremonial games, among which could not miss the most famous Mesoamerican distraction: the ball game.

Watching one of those games wasn't like watching a football game, but something much more transcendent. This game represented the eternal struggle between the powers of the universe. The playing field represented the sky and the ball the sun, making each match an event loaded with religiosity and symbolism.

The language and writing of the Mixtecs

The pre-Hispanic Mixtecs spoke the Proto-Mixtec language, the name proposed for the language from which most of the languages spoken by the Mixtecs today originate. This ancestral language managed to survive Aztec and Spanish rule, evolving and diversifying into more than 80 different forms. The language has evolved so much that its variants are very different, rendering its speakers unable to understand each other and resorting to Spanish as a lingua franca.

While not much is known about Proto-Mixtec's sound, it's possible to see what one of its current variations, Xochapa, looks like.

However, while efforts to restore Proto-Mixtec's sound have not been very successful, we do know how it was written. Like the Zapotecs, the Mixtecs used hieroglyphs as their writing system which have been preserved and analyzed in many codices, such as the Mixtec-Zapotec codex, vindoboninensis mexicanum, Brodley and Zouche Nuttal, in which scenes are described. history, a noble genealogy and socio-political alliances.

Social and political organization of the Mixtecs

The mixtec social structure was made up of hierarchically organized strata. It was very similar to the Zapotec system. At the top, there was the king, but also the religious leaders and the high nobility, but never at the same level as the monarch. The next level is that of traders, much appreciated, followed by peasants and artisans who are the main economic engine. Finally, at the lower rung were the slaves and serfs, mostly prisoners of war and criminals who represented the workforce of each kingdom.

The Mixtecs did not live in one country, but in several kingdoms and city-states, as the Greeks did in classical antiquity. Each independent state was ruled by a king who collected taxes in the form of goods and services, with the nobility being the bureaucratic structure responsible for collecting taxes from their subjects. These kingdoms, although part of the same culture, occasionally quarreled and attacked each other, although they also made trade and military alliances.

Among the most important leaders in Mixtec history is Ocho Venado Garra de Jaguar, a leader who during the 10th century founded several Mixtec kingdoms. This famous leader initiated a major expansionist process and is credited with unifying the kingdoms of Tututepec (Yacudzáa), Tilantongo (Ñuu Tnoo Huahi Adehui) and Ñuu Cohyo under his sole command, ruling them until his death.

As the Mixtecs didn't get along very well with each other, they weren't going to be friends with other cultures. They got along particularly badly with the Toltecs, and on more than one occasion they fell out with the Zapotecs. However, their ethnic disagreements were overcome whenever the Aztecs tried to establish themselves as the main power in Mexico, which prompted the Mixtecs and other peoples to unite to face the common enemy.

Unfortunately, the system of alliances between the Mixtec kingdoms and with other Mesoamerican countries would eventually fail, arousing old ethnic tensions that were exploited by the Aztec Empire in the 15th century. Later, the Spaniards will learn of this lack of military and state unity from the Mixtecs and other peoples, which will considerably accelerate the conquest of Mexico.

The economy of the Mixtecs

Their economy depended mainly on agriculture. The Mixtecs planted chili, beans, pumpkins, cocoa, cotton and, of course, the corn so important to any Mesoamerican culture. It should be mentioned that the cultivation of cocoa and cotton was only possible if the terrain allowed it, besides the fact that this culture was constantly faced with abrupt relief and water scarcity. That is why they had to succeed in developing a terraced cultivation system which they called "coo yuu".

Like their neighbors the Zapotecs, the Mixtecs were not particularly fond of fishing, hunting or gathering wild fruits, although they did engage in these activities from time to time. On the other hand, the Mixtecs are known to have domesticated the guajolote, or turkey.

They were very good at working with metal, especially gold. In their culture, this mineral was considered the excrement of the gods and had important sacred significance. It is believed that the Mixtecs must have been one of the first cultures to work with metals, although the possibility that they developed metallurgy later was also considered. Likewise, their mastery of metals was very great, turning them into statuettes, as well as making sculptures with bones.

Their pottery is polychrome, with shades of orange, black, red, white, blue and lilac. To dye the containers and fabrics red, they grew mealybugs, a parasitic insect of the cactus plant which when crushed gives a bright red color. In addition to that, they extracted caliche (calcium carbonate) and magnetite, which they marketed with their factories and some of their crops.

The art of the Mixtec people

The Mixtecs are distinguished by their know-how as craftsmen, goldsmiths and painters of codices. They worked with metals such as gold, silver and copper. With them, they made bracelets, necklaces, rings and other jewelry.

The influence of the Toltecs

The Olmec civilization, which lasted from 1200 to 400 BCE, was the first highly organized society in Mesoamerica. This civilization became the basis for many new cultures in Mexico and Central America. The Olmecs developed trade routes and had a distinct artistic style, creating massive carved stone heads that still exist today. The Toltecs are a people of warriors who came from the north and whose origins we know very little about, to conquer new lands and who founded their capital there, under the reign of their leader called Mixcoátl. These invaders whose origin is certainly Chichimec (term which designates a fairly large set of nomadic groups that a specific tribe or ethnic group). It is therefore the descendants of these barbarians who will nevertheless give birth to a culture with refined life and customs according to the legends and vestiges that they left us as in Tula (their mythical capital). From 500 BCE to 1000 CE, the Zapotec civilization originated in the Oaxaca Valley, where they built pyramids and palaces. The Zapotec people also developed an alphabet, a number system and their own calendar.

The Toltecs developed their culture between AD 850 and 1168, which places them in the classical and post-classical periods of Mexican history. Their main center is the city of Tula which reached its peak splendor in the AD 400s

Tula was populated by two main ethnic groups: the Chichimec Toltecs and the Nonoalcas. This culture developed very quickly and influenced the Mayan culture of the Yucatan Peninsula.

The word Toltec derives from the Nahuatl toltecatl, which was used to refer to the people of Tollan, although later this word was used to refer to the craftsmen.

He is known as the Toltec by a group of Nahuatl speaking people who came from northwestern Mexico and established their political and religious center in the city of Tula. The term "Toltec" has different meanings but it is generally identified with "people of the reeds" because they were associated with the city of Tula (Tullan in Nahuatl and it meant "reed bed"). After some time it was associated with the word "builder" and came to be synonymous with "civilized".

Geographical location of the Toltecs

The Toltec culture was geographically located in the Haut Plateau Central region. This culture was very rich and its main ceremonial centers were Huapalcalco in Tulancingo and the town of Tollan-Xicocotitlan (today Tula de Allende).

History of Toltec civilization

Tula appeared around 950 AD and it was in 1025 that King Mitl succeeded in establishing himself in the internal war which opposed part of the nobility.

According to Toltec legend, this culture originated in a Chichimeca tribe who, at the beginning of the 10th century, led by their king Miscoatl, settled in Culhuacan. Topiltzin succeeded him, who is certain to be a real character but not his predecessor.

There is great controversy over its relationship with the Mayans, even some historians claim that Tula was founded by Mayans from Yucatan. It is true that the two tribes had intense political, religious and commercial relations. This was very evident in Chichén itzá. It can be seen in the structures of the Castillo or in the Temple of the Warriors. Another example is the god Quetzalcoatl who was very present in Kukulkan.

The Toltecs were very skilled in construction work and their influence spread during the post-classical period throughout Mesoamerica. Among the people of that time, Toltec was synonymous with people who were skilled artists and craftsmen.

City of Tula

When the Toltecs arrived in Teotihuacán, following their migration (around the year 1000), the city had already been abandoned for nearly three centuries. We do not know what war or cataclysm may have emptied the place of all its inhabitants. We recently found traces of a big fire in the city. The Toltecs took over a ghost town and very quickly brought it back to life. They partially reconstructed the heritage of these prestigious ancestors of whom they knew next to nothing. They founded their new capital, Tula, 50 km further northwest, and, in two centuries, built a powerful empire spanning all of central Mexico.

Some historians claim that the city of Tula is the map of the translation of Venus. These cycles refer to the stages Quetzalcoatl went through to become a man-God. Even in the Atlantean costume is shown an example is the black mirror in which Quetzalcoatl saw himself reflected and admitted his mistakes. It is also referred to in the chacmol which is a representation of Quetzalcoatl emerging from the fire hidden under the Earth.

Toltec culture

The Toltecs managed to develop an extraordinarily advanced culture for their time. Their emblems are the eagle and the jaguar, which symbolizes the central highlands and the coastal plain of the gulf where they extended their influence. They are said to have invented painting and the art of frescoes, sculpture, poetry and therefore to have been the first to have mastered writing. The political regime was feudal and conflicts frequent. From Toetihuacan they took over the calendar and the use of graphic signs, but they themselves gave a great impetus to medicine, astronomy and more everyday activities like metallurgy and goldsmithing.

As they had a large empire, they created an efficient bureaucratic system and established a primitive postal system (the first in the region) which was supported by a network of messengers.

Architecturally, Teotihuacan's influence is clearly visible and it had a marked monumental character which was reflected in the construction of great pyramids, ball playgrounds, temples and tombs.

The sculpture reflected their religious beliefs through the depiction of warriors (like the famous Atlanteans of Tula), feathered snakes that symbolized Quetzalcoatl and other figures like the seated statues of the god Chac Mool. The latter's reclining position has been interpreted as a representation of the rest of the messengers during their travels.

There is a lot of talk about the Toltec influence on the Mayan civilization, but it is also evident that the art and architecture that can be seen in Tula closely resembles the techniques used by the Aztecs. At the same time, the similarity of the patterns represented demonstrates an ideological and cultural similarity between cultures.

Toltec architecture

The Toltecs brought important innovations in architecture to Mesoamerica in the 9th century. The human figures that support the roofs of buildings with their necks are an example.

Among the most famous architectural constructions, we find the pyramid B with its Atlanteans. These were decorated with jewelry and mosaics. They are believed to represent the Toltec-Chichimec warrior Mixcoatl (father of Quetzalcoatl) or the morning star god Tlahuizcalpantecuhtli. Other character-defining elements are the columns in the form of feathered snakes.

In architecture and sculpture, they are distinguished by the construction of serpentine columns, relief plaques of jaguars and eagles, pilasters with figures of warriors and other details that seek to emphasize its organization of a purely military character.

The Atlanteans of Tula are a clear example of how well this culture worked stone.

Toltec economy

The economy was based on agriculture, in particular the cultivation of corn, beans and amaranth. Another important source of income was trade, craft production, and tribute.

Agriculture was practiced in fields irrigated by canal systems. The main crops were corn, beans and amaranth. In the Toltec regime, amaranth played a central role because thanks to it, famine was avoided in times of drought. Due to its characteristics, this plant is very easy to grow and is also very resistant to lack of water. In addition, it is easy to store for long periods without getting damaged. It also has a high nutritional value, which is why many consider it to be the most important crop in Tula.

This seed, amaranth also called huatli or joy, was also used in offerings and rituals. Many chroniclers have described that in certain ceremonies they used figures made with agglutinated amaranth. Today, the same technique used by the ancient Toltecs is used to make the region's famous amaranth candies.

Social and political organization

The Toltecs developed between the 10th and 12th centuries AD. The Toltec state became the largest empire that existed in Mexico until this time. In the political sphere, she was the first to move from a society organized under a religious theocracy to a mythical and warlike type. This change in political organization is characteristic of the post-classical Mesoamerican period.

This formation of a new government system had the characteristic of linking religious and war issues. Thus, the positions previously occupied by castes of priests passed into the hands of military leaders who were grouped into so-called totemic orders (jaguar, coyote and eagle). This change allowed for the creation of a strong and powerful army which made possible the expansion of the empire. This point is considered the beginning of militarism in Mesoamerica.

Toltec society was divided into two distinct classes:
* Privileged group: was composed of soldiers, civil servants, priests and the supreme leader.

* Non-privileged group: it was made up of farmers and artisans.
Curious fact They were the first in Meso-America to make the first registers and historical chronicles in which one can find genealogical information of their rulers.

Decadence and destruction of Tula

Around the year 1160, droughts, internal conflicts and the irruption of barbarian peoples from the north (Chichimecas) led to the decadence and depopulation of Tula. With the collapse of Tula, its inhabitants migrated to the Valley of Mexico where they founded Culhuacan while others moved south and settled around 1290 in Cholula where they remained until the middle of the 14th century. .

Around 1184, Tula was sacked and burned down due to the significant internal conflicts that existed between the Nooalcas and the Tolteca-Chichimecas. This situation was aggravated by severe droughts which increased the discontent of the population. So this civilization ended.

THE AZTECS

The Aztecs greatly admired the Toltec civilization, which became an ideal and much admired culture for the Aztecs. They modeled much of their culture on the Toltecs, including their religion and their art. The Aztec term Toltecayotl (Toltec heart) means that a person has extraordinary qualities.

Later cultures, such as the Mayans and Teotihuacan, were built on the knowledge of the Olmecs. They studied astronomy, created written languages, and used mathematics. The classes divided the people, with the nobility and rulers at the highest ranks. Just before the Aztecs came to power, the Toltecs held control from 900 to 1100 CE. As this civilization declined, the Aztecs slowly rose to power.

In the 1200s, a wandering tribe of peoples called the Mexicas sought a new homeland. Originally, they had left their mythical island of Aztlan in the 1100s.2 The Aztec name comes from the name of the island and became the name commonly used for the inhabitants of the Valley of Mexico during the reign of the empire. .

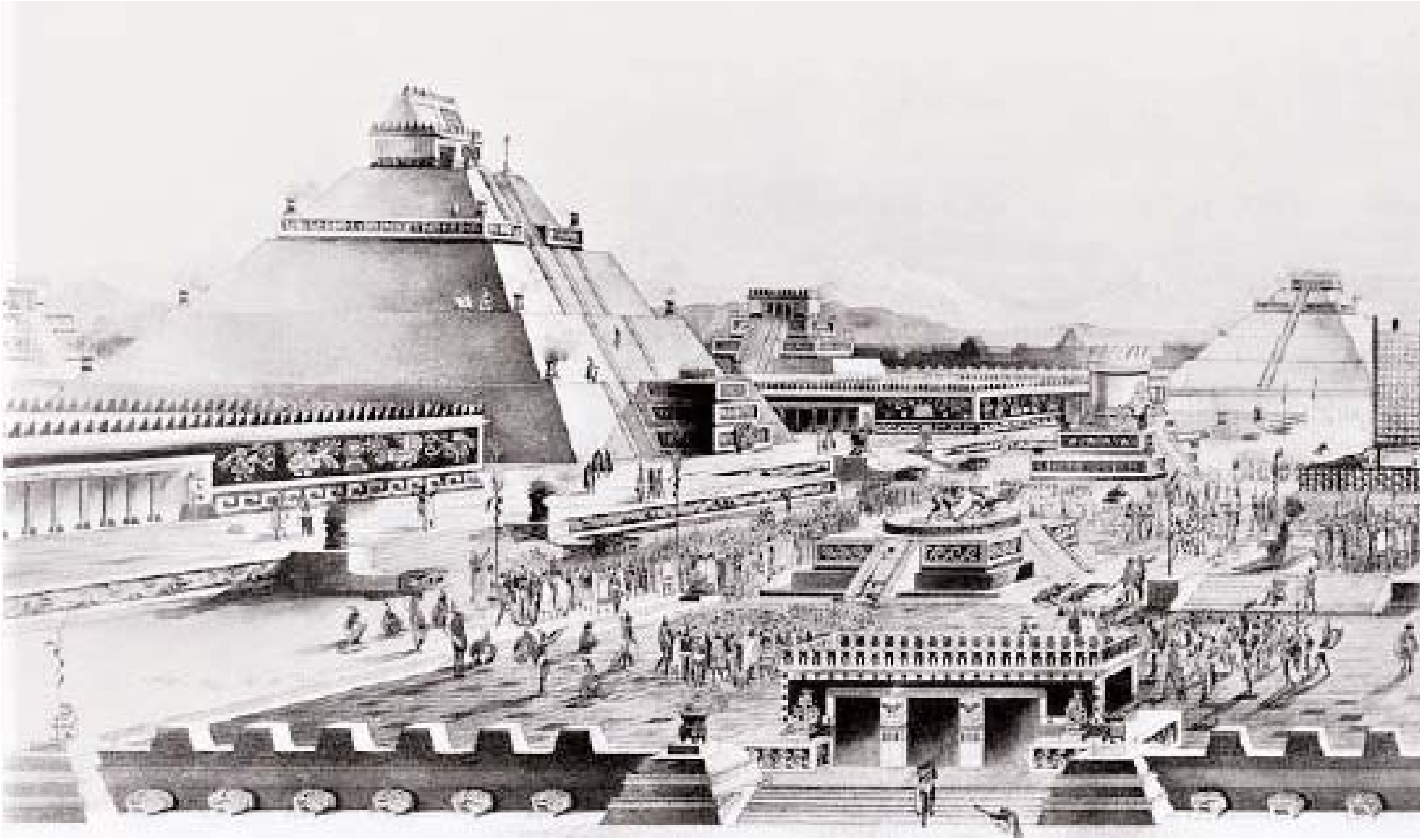
In the early 1300s, the Aztecs arrived at Lake Texcoco. It was a swampy area with an unoccupied island in the Valley of Mexico. The valley was a great place to settle. A map from a book published in 1524 shows the capital of the Aztec Empire of Tenochtitlan, on the right, with a representation of the Gulf of Mexico, on the left. It is based on the memories of Hernan Cortes.

aquifers, and all that water flowed into Lake Texcoco. It was a sprawling wetland that covered 400 square miles (1,000 km2) and had abundant wildlife and vegetation.

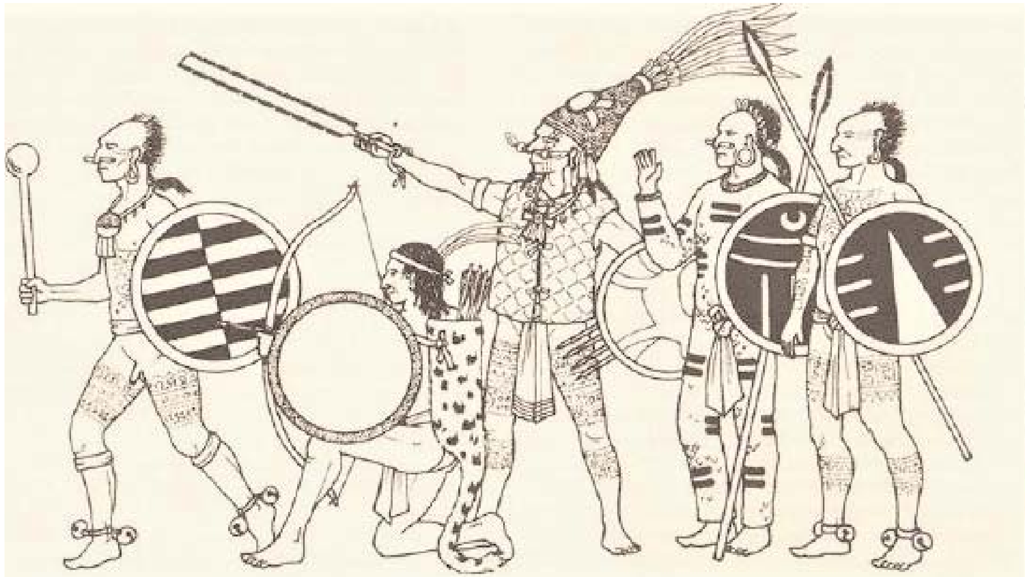
The Aztecs claimed the island of Lake Texcoco as their final home and named the community Tenochtitlan. Although the swampy lands were not ideal for agriculture and there were few building materials, the area was rich in birds, fish and other aquatic species. Several communities were located on the shores of Lake Texcoco, such as Culhua and Atzcapotzalco, and Aztec women began to sell fish, birds, frogs and vegetables from the lake in the markets of these

other communities. The Aztecs also established markets on the island, and communities outside brought goods to trade. This was the start of a commercial network that would eventually help the Aztec civilization to develop. People also began to build an agricultural system known as the chinampa system to grow food for the growing community.

Shortly after the city was founded in 1325, the ruler of the Aztecs was Tenoch, who had been elected to power by a council of elders. Tenoch led the island community for 25 years. After his death, the new leader, Acamapichtli, brought together the people of Tenochtitlan and the people of Culhua. Acamapichtli was a nobleman who had both Aztec and Culhuacan ancestors.



A 20th-century drawing of Tenochtitlán, based on Spanish descriptions of the Aztec capital. The tallest pyramid is the Great Temple of Huitzilopochtli, the god who was said to have led the Aztec to their homeland.(Neg. no. 326597, Photo by Rota, courtesy the Library, American Museum of Natural History)



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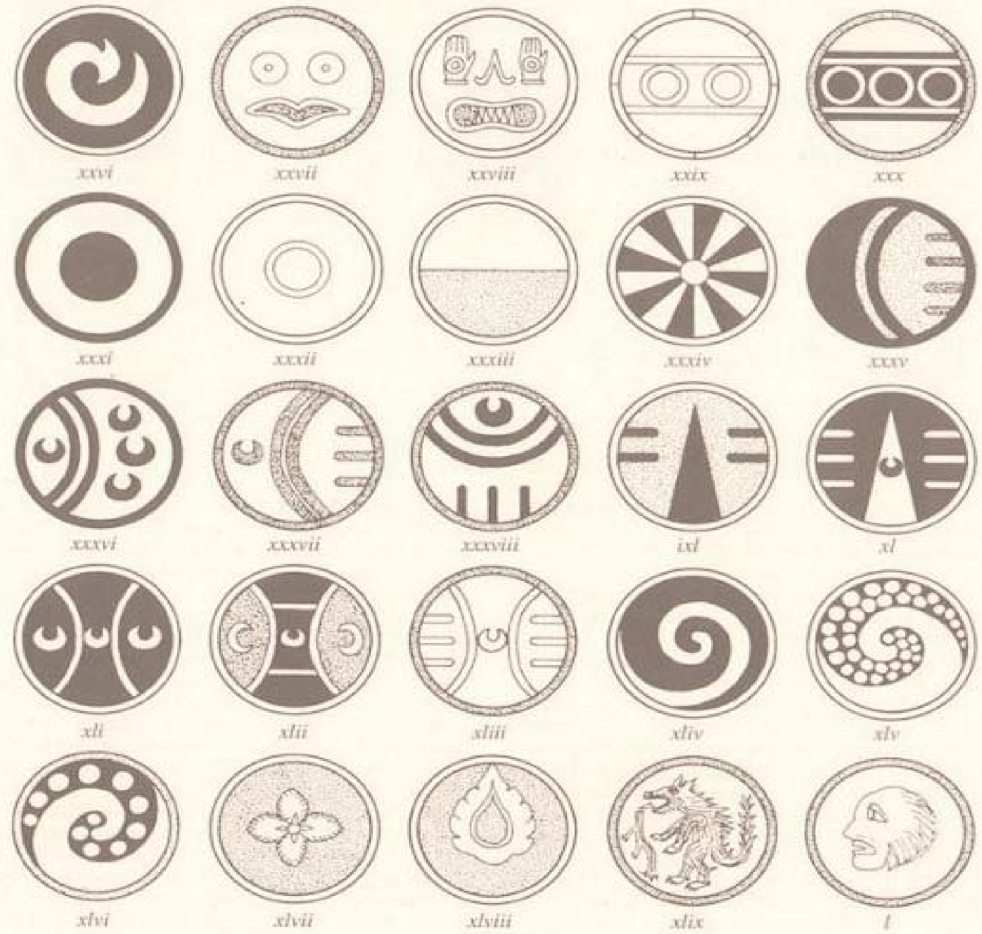
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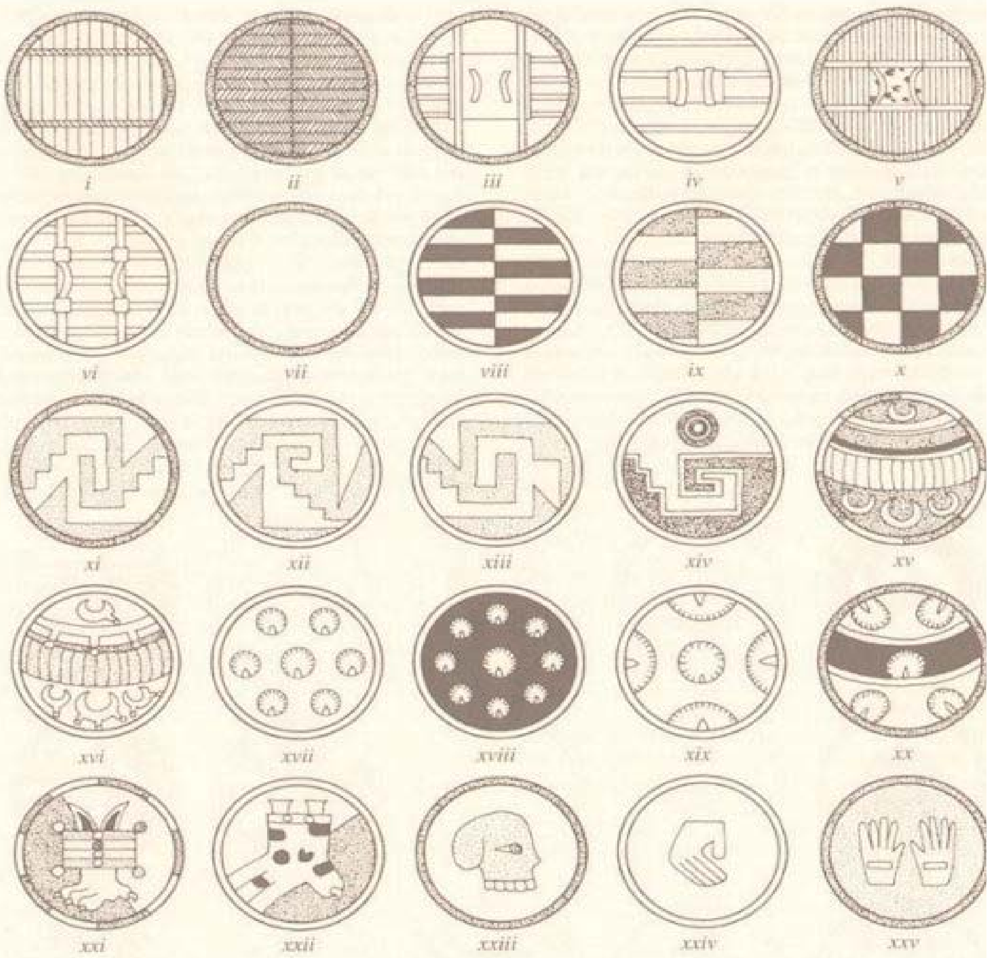
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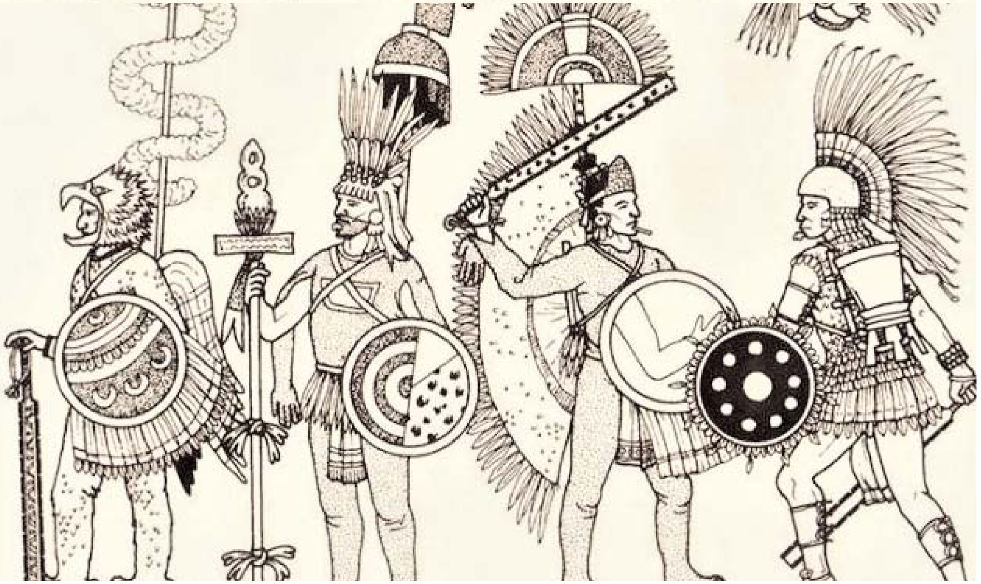


During the reign of Acamapichtli from 1375 to 1395, the Aztecs were the subjects of greater power in the valley. They paid tribute and were under the command of Tezozomoc of the city of Atzcapotzalco, who ruled the valley until his death in 1426. Part of the tribute of the Aztecs was to fight in the military campaigns of Atzcapotzalco. Eventually, the Aztecs were given permission to wage their own wars to conquer cities, demand tribute, and gain farmland. They continued to fight for Atzcapotzalco, proving their military might, and were rewarded with land.

By 1426, the Aztecs had proven themselves to be equal to the warriors of Atzcapotzalco. The new ruler of Atzcapotzalco, Tezozomoc's son Maxtla, was a murderous and unstable ruler. In 1426, he killed his brother to take power, then he assassinated the Aztec ruler Chimalpopoca. The Aztec council quickly elected a new leader, Itzcoatl, who was a mighty warrior. Under his leadership, from 1427 to 1440, the Aztecs sought support from neighboring towns to wage war against Atzcapotzalco. They found allies in the leaders of Texcoco, Tlaxcala, Tlacopan and Xaltocan.

This war led to an alliance in 1431 between three important cities in the Valley of Mexico: Tenochtitlan, Texcoco (in the east) and Tlacopan (in the west). This alliance was the start of the Aztec Empire, with Tenochtitlan as its capital.

The fastest way for the Aztecs to increase their resources and wealth was conquest. The Aztecs began by defeating the towns surrounding Lake Texcoco. They continued to the mainland and passed the Ajusco mountains into the Morelos valley. Each defeated city has become a growing empire city-state. Each city-state was to pay homage to the Aztecs in the form of goods or services, which varied according to thetypes of resources or skills found in the area. These tributes also increased over time as the needs of the growing empire increased.

In 1440, Montezuma I became the new Aztec ruler. During his reign, the empire extended to more distant lands. The Aztecs defeated the Huaxtecs in north-central Veracruz in the mid-1450s. They then defeated Coixtlahuaca in 1458 and went on to defeat Cosamaloapan in 1459. In 1472, just a few years after the death of Montezuma I, the empire had spread to Mesoamerica.

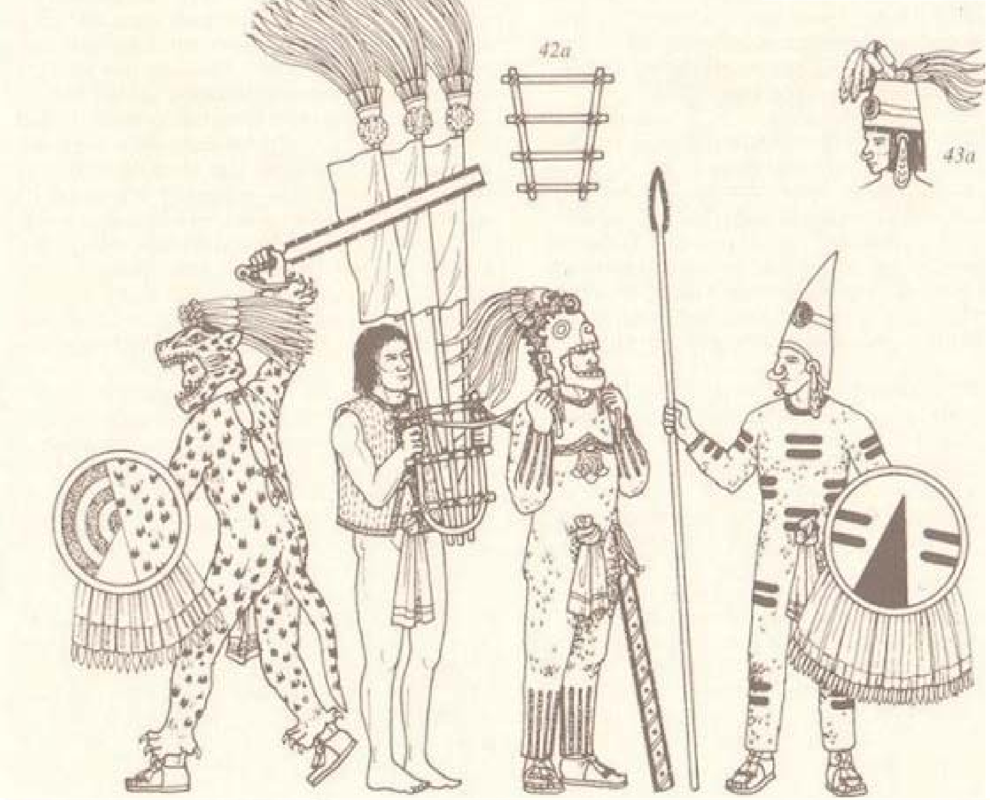
A great sacrifice

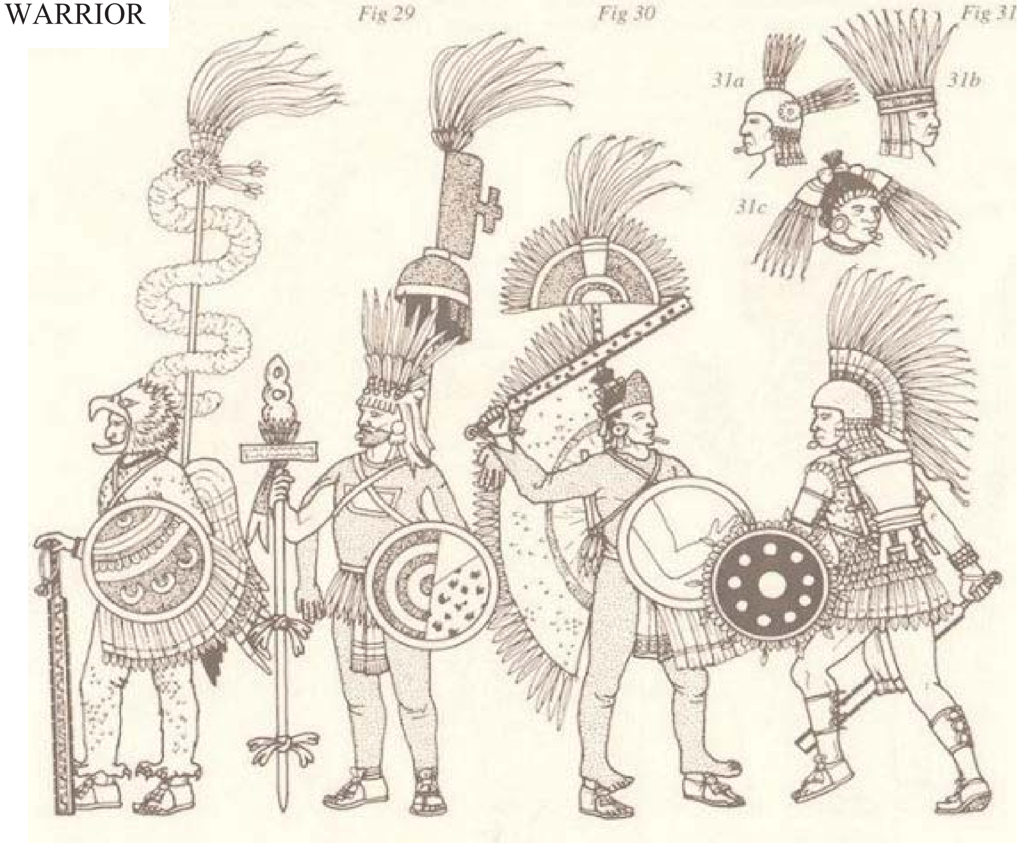
When the Great Pyramid was completed in 1487, Ahuitzotl held a dedication ceremony. Atop the great temple, Aztec priests and nobles, including Ahuitzotl, opened and removed the hearts of 20,000 or more prisoners of war. The blood of the sacrificed victims flowed on the temple steps and collected in the plaza below, horrifying the Aztecs and guest ambassadors of other nations. Human sacrifice has become a powerful political tool for Ahuitzotl and the future rulers of the empire.

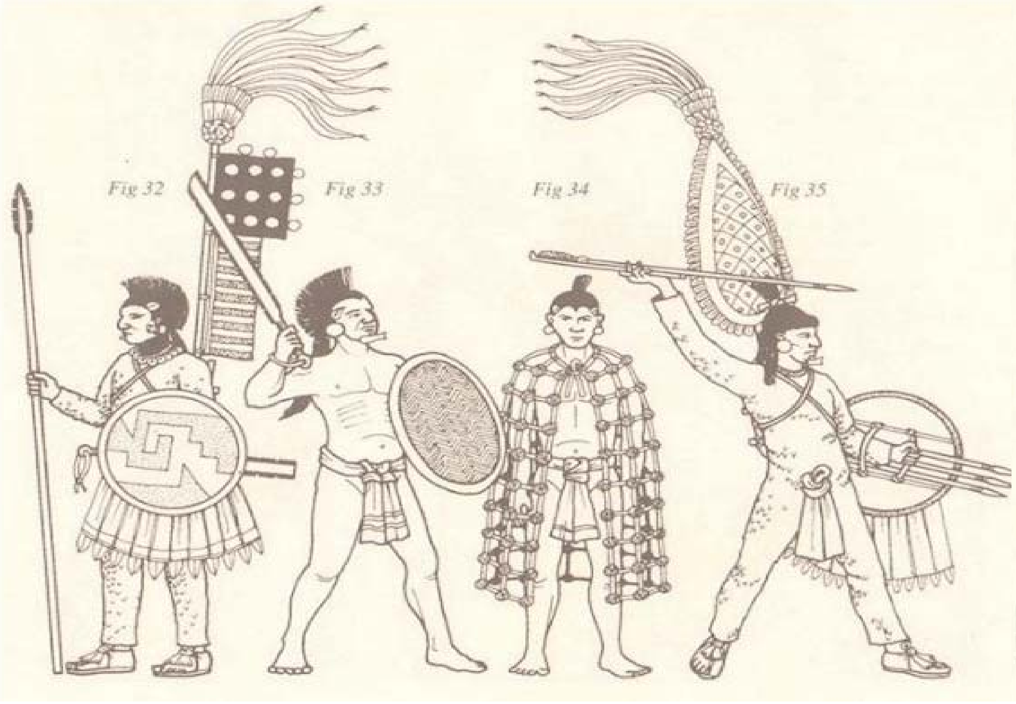
Axayacatl, a 19-year-old prince, became the next Aztec ruler. His campaigns conquered the towns and lands west of Tenochtitlan. During his reign, the Aztecs also suffered a defeat against the Tarascans near Lake Patzcuaro. In 1481, Tizoc came to power but did not expand the empire during his reign. Instead, he focused on suppressing rebellions in the city-states of the empire. Under Ahuitzotl, elected sovereign in 1486, the empire took a bloodier and more ruthless turn. His mass human sacrifice at the Great Pyramid was one of the bloodiest events in the history of Tenochtitlan. His conquests further expanded the empire until 1502, when the last ruler of the empire, Montezuma II, took power.

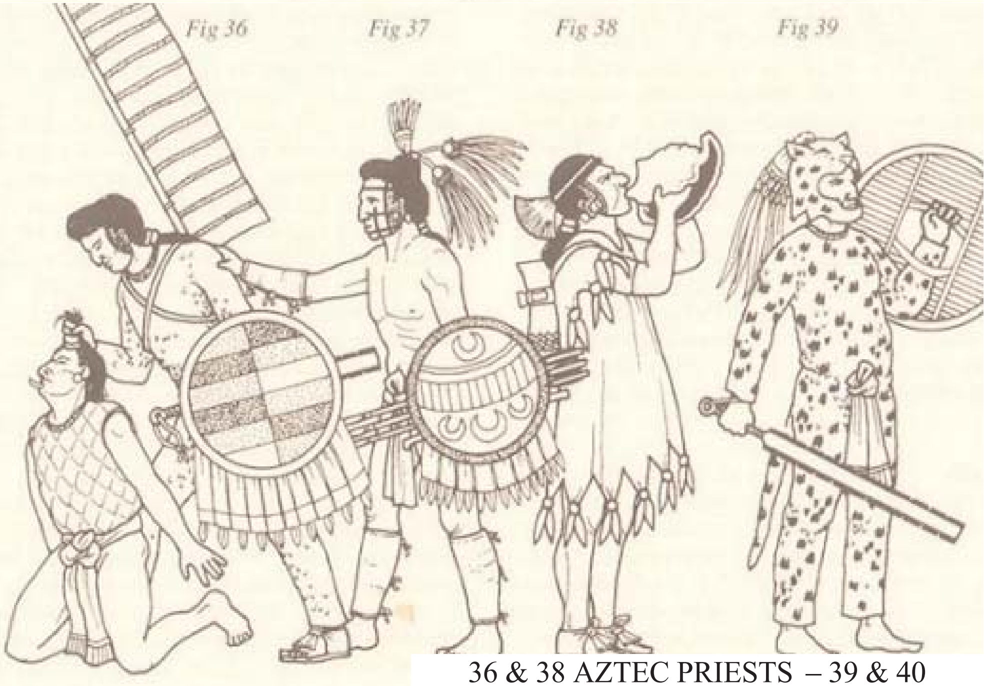
Montezuma II wanted to make sure the nobility favored him, so he created laws that exaggerated the class differences in Aztec society. The way people dressed became even more important, so that nobles could be easily distinguished from commoners. Court etiquette has become more elaborate in order to show the highest levels of respect.

AZTEC JAGUAR WARRIOR









36 & 38 AZTEC PRIESTS – 39 & 40

Aztec technology

The Aztecs used mathematics to measure distances, lengths, and area of land. Their technological advancements have focused on practical use, such as agriculture and construction. The Aztecs used obsidian and copper tools to build, carve, and sculpt using stone and wood.

Canoes and boats

A canoe was very useful for navigating the canals and the lake surrounding Tenochtitlan. These canoes were made from hollowed logs burnt by fire. Aztec carpenters also made a flat-bottomed raft-like boat made from wooden planks bound together by tight fibers. From this knowledge, the Aztecs built an impressive array of tools, structures, and systems to help their society thrive.

While the wheel was only used for toys and there were no beasts of burden, the Aztecs developed several means of transporting goods over long distances.

The most common form of freight transport was in a woven cane container attached to a person's back on a transport frame. Carriers, called tlamemes, specialized in this type of transport. Each tlameme could carry just over 50 pounds (23 kg) for approximately 13 miles (21 km) .

Travelers navigated between cities along a system of roads. The most developed roads were located near towns. A main road linked the major cities of the empire. The populations or the local authorities have maintained the sections of road located near their towns.

In Tenochtitlan, five major causeways connected the city to the mainland. People could walk along the causeways above the lake out of town. These 12-foot (3.7 m) wide causeways were made of wooden piles driven into the lake bed and filled with sand, earth, and rocks.2 To allow current to flow through the lake, parts of the causeways were cut, creating channels. Above these gaps were wooden bridges.

The Badianus manuscript

By the time the Spaniards arrived, the Aztecs had been practicing medicine for centuries. These expert herbalists had extensive knowledge of the medicinal uses of plants. In 1552, two Aztec scholars recorded a list of herbs used by their people in the Badianus manuscript, which was written in Nahuatl and later translated into Latin.

The Aztecs had specific medicinal mixtures to treat many types of ailments. To stop a nosebleed. The Aztecs mixed the juice of a nettle plant that was crushed in salt with urine and milk and poured this mixture into the nostrils. For a lightning strike, an injured person drank a liquid made from leaves of different trees and rubbed a bandage made from different herbs on his body.

Fertilizer for Chinampas

The Aztecs were model organic farmers who let nothing go to waste, even human excrement. They filled the canoes with the excrements of the inhabitants of Tenochtitlan and sent the canoes into the chinampa fields. This human waste was then used as a rich fertilizer for the soil.

THE TEMPLE OF THE SUN OF PALENQUE

The "Palace" dominates the central area of Palenque. Sitting on a vast man-made mound, this network of galleries and courtyards is about the size of a standard city block in North America.

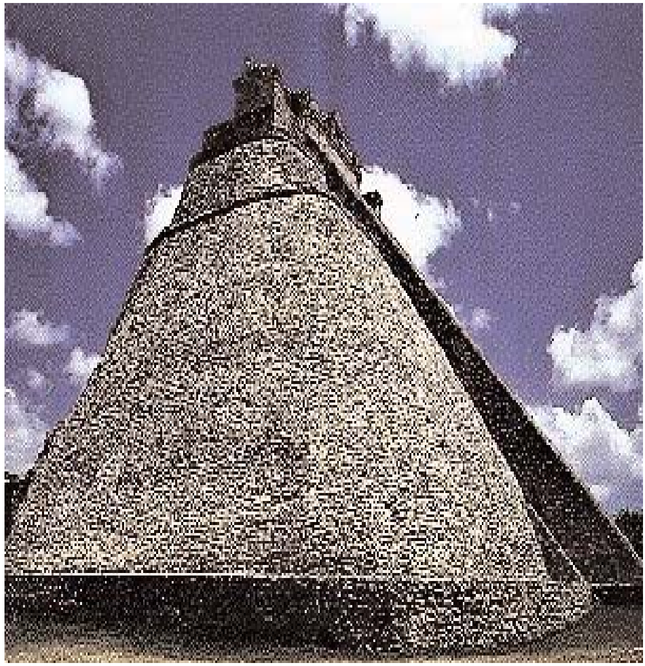
The temple of the Sun, in Palenque, was built by Chan-Bahlum ("serpent-jaguar"), son of Pacal, around 690 AD. The roof ridge has no structural function, but it can be considered that it resembles the ceremonial plume worn by a king. The mansard roof of the temple is adorned with magnificent stucco figures for which Palenque is famous, and with good reason. The ridge of the roof consisted of a stone trellis surmounting the already high structure of the pyramid-temples. Perhaps the Mayan architects, fearing that these temples were not grandiose enough, wanted to enhance them in this way. The crest was always abundantly decorated with reliefs painted in plaster, like the facades of the temples. The entrances, doorposts and facades of many other Mayan buildings were also decorated with a multitude of wood or stone carvings.

If the temples were the most imposing structures, more were the one-story palaces, similar in appearance, but with much lower platforms. These palaces contained a few dozen rooms with plastered walls. Often, unlike pyramid-temples, one or two interior courtyards were set up within the walls of the palaces.

We do not know exactly what these "palaces" were used for. Chiefs or other members of the elite may have lived there, although the rooms were tiny and uncomfortable. According to archaeologists, it is more likely that the nobles lived in buildings that have now disappeared. It could also be that monks, nuns or priests lived in these "cells", although the existence of ecclesiastical or monastic orders among the ancient Mayans is not attested.

The Magician's pyramid, in Uxmal (north of Yucatán), has a particular shape. It is built on a large oval platform, but apart from this peculiarity, it is of the same shape as the traditional pyramid temples.

According to Mayan legend, the temple was created in the space of one night by a child prodigy who would have become the ruler of the country. In fact, it may have taken up to 300 years to erect the structure we see today since it is actually five structures built on top of each other.



The swampy lands are not ideal for agriculture, but the Aztecs were successful in making the area around the island city of Tenochtitlan agriculturally productive. They built raised agricultural beds called chinampas on the shallow bed of the lake. To build a chinampa, a rectangular area was first chosen and its four corners marked by wooden stakes extending into the lake bed. The size of the chinampas ranged from about 10 to 16 feet (3 to 5 m) wide and 20 to 98 feet (6 to 30 m) long.3 The rectangular area was then filled with layers of mud and vegetation. The finished chinampa extended about 3 feet (1 m) above the water. Willows have been planted at each corner to help stabilize the chinampa. Sometimes the farmers also built their houses on these plots.

Even though they lived on a lake, the people of Tenochtitlan needed drinking water and water to irrigate the farms. Some of the water in the lake was saline and therefore undrinkable. Aztec engineers designed an ingenious type of aqueduct to bring fresh water to the city. The Chapultepec aqueduct has its source at the sources of Chapultepec and ends in the center of the city. It was built on an elevated platform, on top of a causeway near the city. At its base were wooden pilings, topped with a foundation of sand, lime and rock. This base supported two masonry water channels. While one channel was in use, the other could be cleaned and maintained. This ensured that the water flow never stopped. The Chapultepec Aqueduct was the most advanced aqueduct built by the Aztecs, but they built many other aqueducts during their reign.

AZTEC legends

The sun and the moon

The first Sun, the Sun of the Tiger, was born in 955 BC But after a long period of 676 years the Sun and men were devoured by tigers.
The second Sun was that of the Wind. He was blown away and all who lived on the earth, and who clung to trees to withstand the storm, turned into monkeys.
Then came the third Sun, the Rain Sun. A rain of fire fell upon the earth, and the men turned into turkeys.
The fourth Sun, the Water Sun, was destroyed by the floods. Everyone who lived during this time turned into fish. Water covered everything for 52 years.

Thoughtful, the gods gathered in Teotihuacan:
- Who will now be responsible for bringing the dawn back to earth?
The Lord of the Snails, famous for his strength and beauty, took a step forward:
- I will be the Sun, he said.
- Who else ?
Silence.
They all looked at the Syphilitic Little God, the ugliest and most unlucky of gods, and they decided:
- You.
The Lord of the Snails and the Little Syphilitic God retreated to the mountains, which today are the pyramids of the Sun and the Moon. There, on an empty stomach, they meditated.
Then the gods formed a huge pyre, set it on fire and called them.
The Syphilitic Little God took off and threw himself into the flames. He emerged immediately afterwards and rose, incandescent, into the sky.
The Lord of the Snails stared at the blazing pyre, forehead creased. He advanced, retreated, stopped, made several turns. As he could not make up his mind, the exasperated gods urged him on. But before he rose to the sky the gods, furious, slapped him and hit him in the face with a rabbit, so much so that they took away his glow.
This is how the arrogant Lord of the Snails became the Moon. The stains of the moon are the scars of his punishment.

But the resplendent Sun was not moving.
The obsidian hawk flew to the Syphilitic Little God and asked him:
- Why don't you move

And he answered, he the underestimated, the purulent, the hunchbacked, the lame:
- Because I want the blood and the kingdom.

This fifth Sun, the Sun of Movement, illuminated the Toltecs and illuminated the Aztecs. It has talons and feeds on human hearts.

Corn mountain
The gods wondered what could humans eat.

One day Quetzalcoatl encountered a red ant in the vicinity of Teotihuacan. The ant was carrying a grain of corn. Very interested, Quetzalcoatl asked her where she had found him. At first, the ant acted as if nothing had happened and continued on its way. But faced with the insistence of the god she replied that she had extracted it from the "Mountain of Our Food" and invited him to follow her.

But Quetzalcoatl was too big to enter this place like the other ants. So he had to resort to magic and turned into a black ant. The red ant was waiting inside for him, and she guided him to the place where there were heaps and heaps of corn. Then she helped him collect enough grains to share with the other gods. The great Quetzalcoatl thanked her and then left. Quetzalcoatl carried the corn to the other gods who later gave it to men to eat. The food was good.

We needed more corn, but it was a tiring task to turn into an ant to bring back the kernels little by little. Quetzalcoatl attempted to bring back the entire "Mountain" but was unsuccessful. The gods then asked the diviner Oxomo and his wife Cipactonal for help to cast a spell. They revealed to them that if Nanahuatl threw lightning, the "Mountain of our food" would remain open.

Huicholes and corn
The Huicholes were tired of eating things they didn't like. They wanted something they could eat every day, but in different ways.

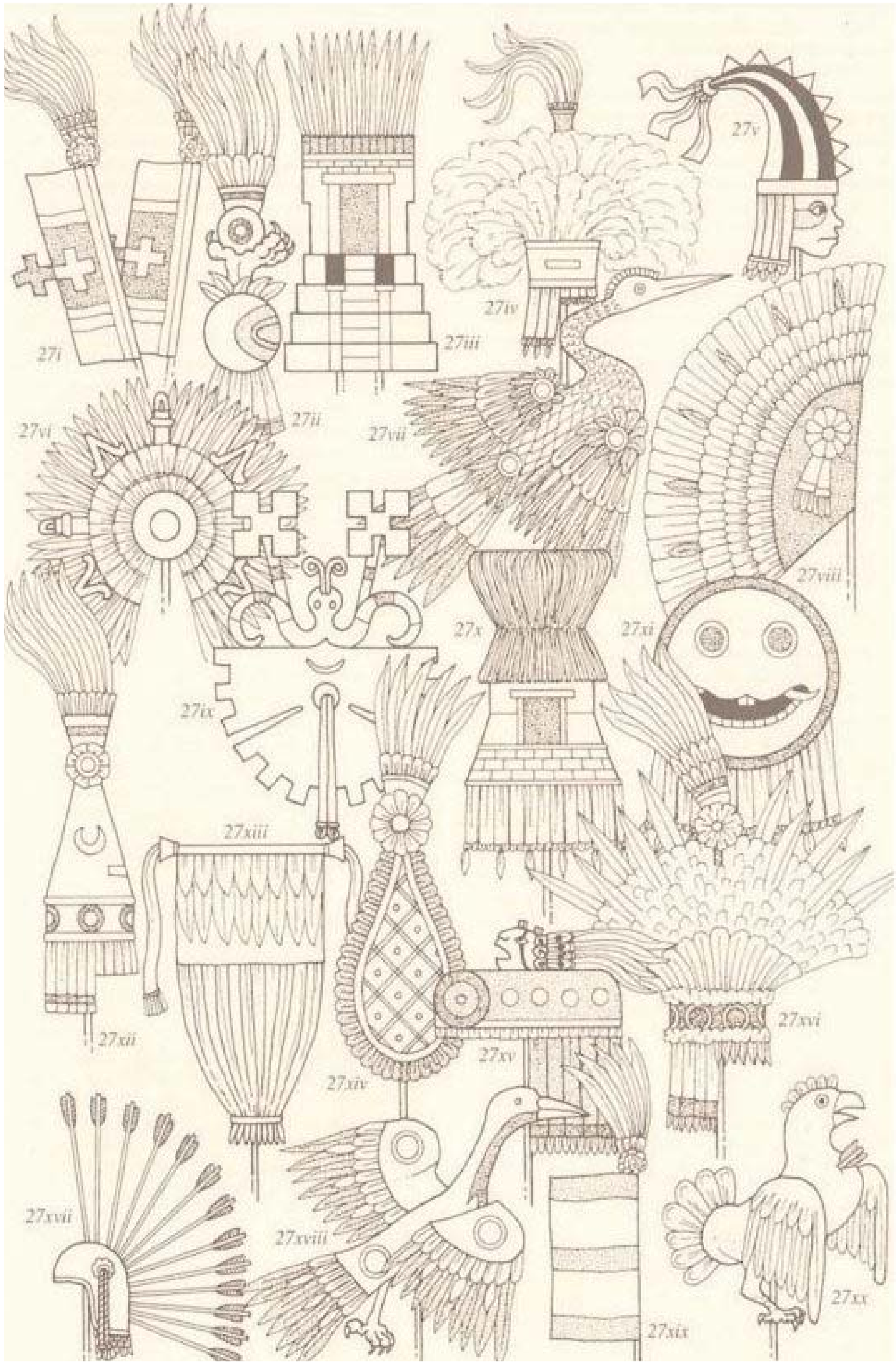
A young Huichol heard about corn and its famous dishes, tortillas, chilaquiles and the tortilla soup that was prepared with this cereal. But the corn was far away, on the other side of the mountain. This did not deter him and he set off. After a short time he saw a line of ants and as he knew that some of them were the keepers of the corn, he followed. But when the young one fell asleep the ants, without any embarrassment, devoured all his clothes, leaving him alone with his bow and arrows.

Without clothes and starving the Huichol began to lament. It was then that a bird landed on a nearby tree. The youngster pointed his bow at him, but the bird scolded him and told him that she was the Mother of Corn. She invited him to follow her to the Corn House where she would allow him to take whatever he was looking for.

In the House of Maize were five beautiful young ladies, the daughters of the Mother of Maize: Mazorca Blanca, Mazorca Azul, Mazorca Amarilla, Mazorca Roja and Mazorca Negra. Mazorca Azul charmed him with its beauty and softness. They got married and returned to Huichol village. As he did not yet have a home, they slept for a while in a place dedicated to the gods. Then, as if by magic, the newlyweds' house filled every day with ears of corn which decorated it like flowers. People came from all over because Mazorca Azul offered them ears of corn with both hands.

The beautiful wife taught her husband to sow corn and take care of the crops. On learning what delicacies this new food offered, the animals tried to steal it. Mazorca Azul taught people to place fires around crops to scare off beasts in search of tender ears.

The ancients tell that Mazorca Azul, after having taught everything she knew, molded herself and it was in this way that men came to know the excellent atole, a hot drink that is prepared with grains of But.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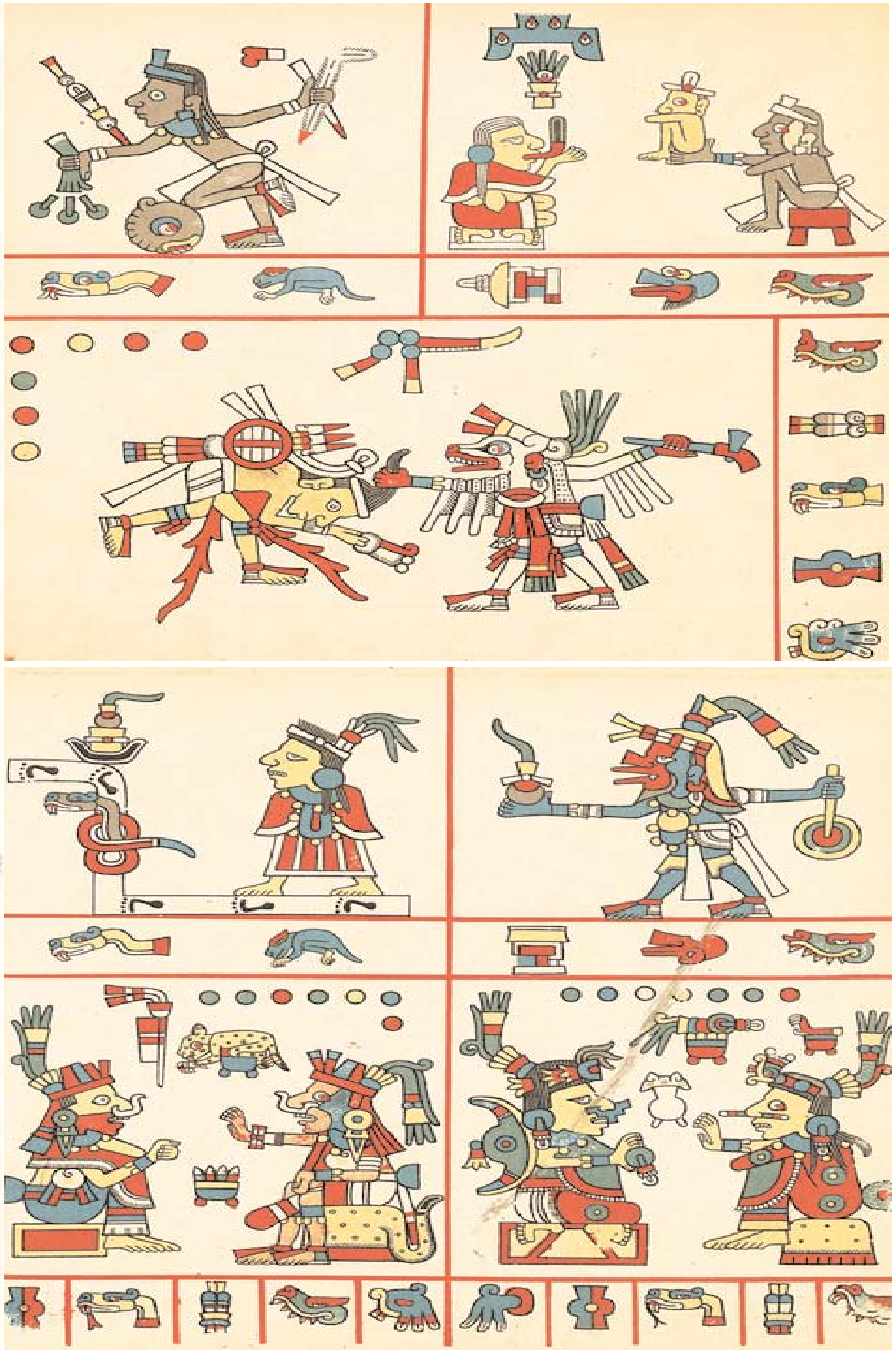
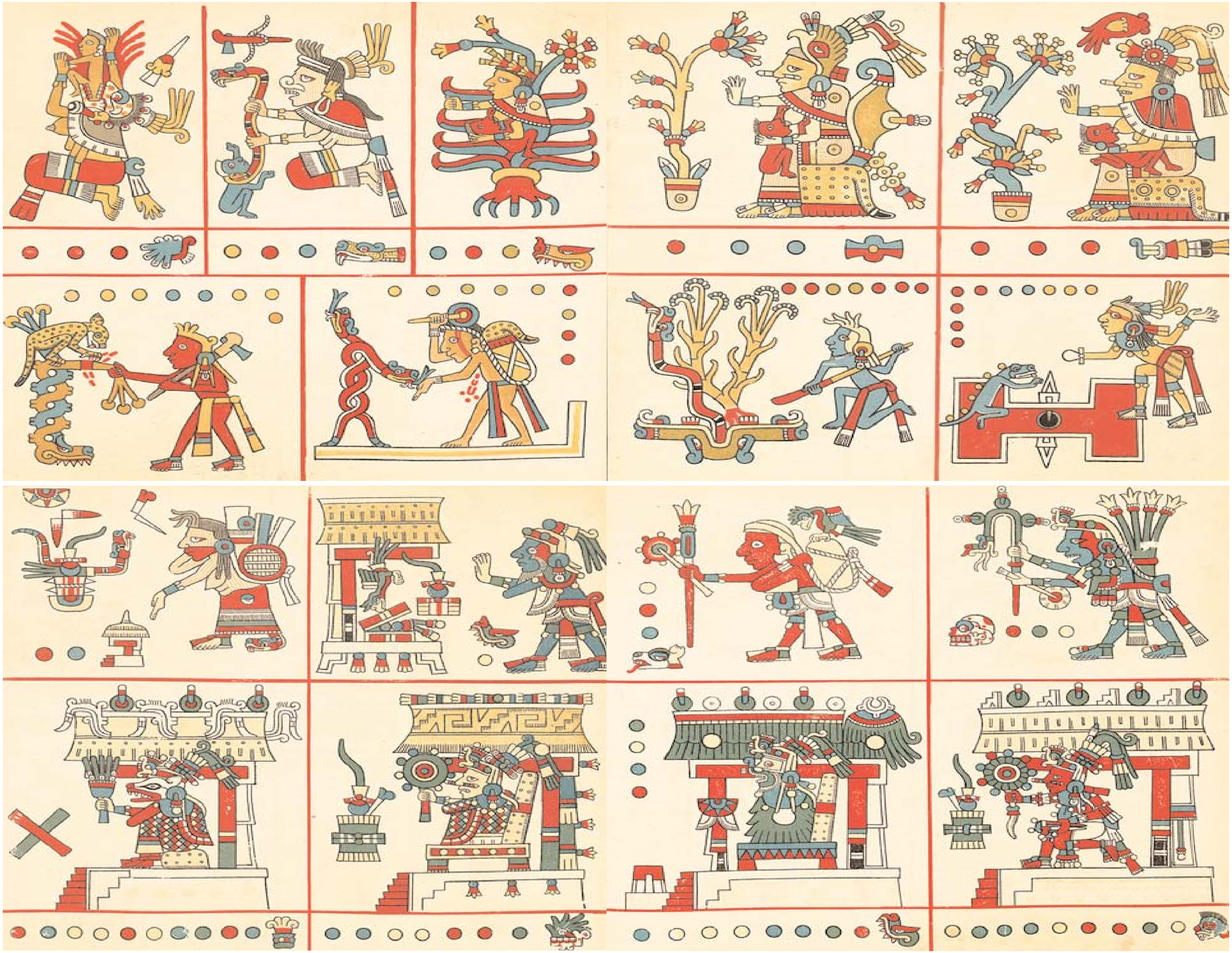


Fresque Aztèque - Oaxaca - Mexique

La vie des Aztèques était dominée par la religion, que caractérisaient un panthéon foisonnant, une riche mythologie, un rituel complexe fertile en épisodes dramatiques et sanglants mais aussi en cérémonies grandioses et en émouvante poésie. La civilisation aztèque avait réalisé la synthèse des divinités astrales des tribus nordiques (Huitzilopochtli, Tezcatlipoca), des dieux agraires adorés par les anciennes populations sédentaires (Tlaloc, Chalchiuhtlicue, etc.), des dieux étrangers tels que Xipe Totec (Oaxaca) ou Tlazolteotl (déesse de l'Amour chez les Huaxtèques). Le dieu des Aztèques à qui est adressé le culte est guerrier et triomphant. Huitzilopochtli est fils d'une déesse de la Terre, il personnifie le Soleil par sa victoire sur ses frères et sœurs, les Ténèbres et l'Étoile du matin. Soleil et guerre : tels sont les deux principes organisateurs de la religion aztèque. Ainsi, les morts au combat ou les sacrifiés connaissent une survie grandiose, car ils sont chargés d'aider le Soleil dans sa course. Tous les jours pendant quatre ans, ils l'accompagnent du levant au zénith. Passé cette période, ils se métamorphosent en colibris ou en papillons. Celui qui meurt dans sa maison, au contraire, disparaît dans les Ténèbres. Dès son enfance, l'homme aztèque est préparé à l'idée du sacrifice; il ne doit vivre que pour donner son cœur et son sang " à notre Mère et à notre Père, la Terre et le Soleil ", et contribuer de la sorte au bel ordonnancement du monde : permettre le lever du Soleil, la tombée de la pluie, la pousse du maïs... La " guerre fleurie ", pacte de sang entre tribus sœurs, de même origine et de même culture, a été scellée à cette fin.



The initial settlement of Mesoamerica MAYA

Maria Regueiro has just published a paper entitled: On the Origins, Rapid Expansion and Genetic Diversity of Native Americans From Hunting-Gatherers to Agriculturalists based on the study of haplogroup Q of the Y chromosome.

The migration process that brought the human species to the Americas is divided into three phases: the first is a migration in northern Siberia dated about 40,000 years ago, from the Altai region to Beringia. Then the climatic conditions blocked the advance of men for about 15,000 years in Beringia. The last phase consists of arriving in the Americas from Beringia. This southward movement was probably facilitated by global warming around 12,500 years ago. Advances in molecular biology as well as improved knowledge of archeology, linguistics and paleo-climatology have illuminated this diaspora in recent years. Two time windows have allowed access to Beringia: between 40,000 and 20,000 years and between 16,000 and 12,500 years, and there is still today a disagreement on the number of migrations and on the time of these migrations.

The current study concerns several East Asian and Native American populations: 3 regions of the Tuva Republic in Central Asia, 2 regions of the northeastern area of Siberia, and the Mayans of Yucatán and Guatemala. A total of 293 samples from these 7 regions were studied: 146 from the Tuva Republic, 32 from northeast Siberia, 72 from Yucatán and 43 from Guatemala. Results from previous studies were also analyzed. The number of samples of haplogroup Q is given in the table below:

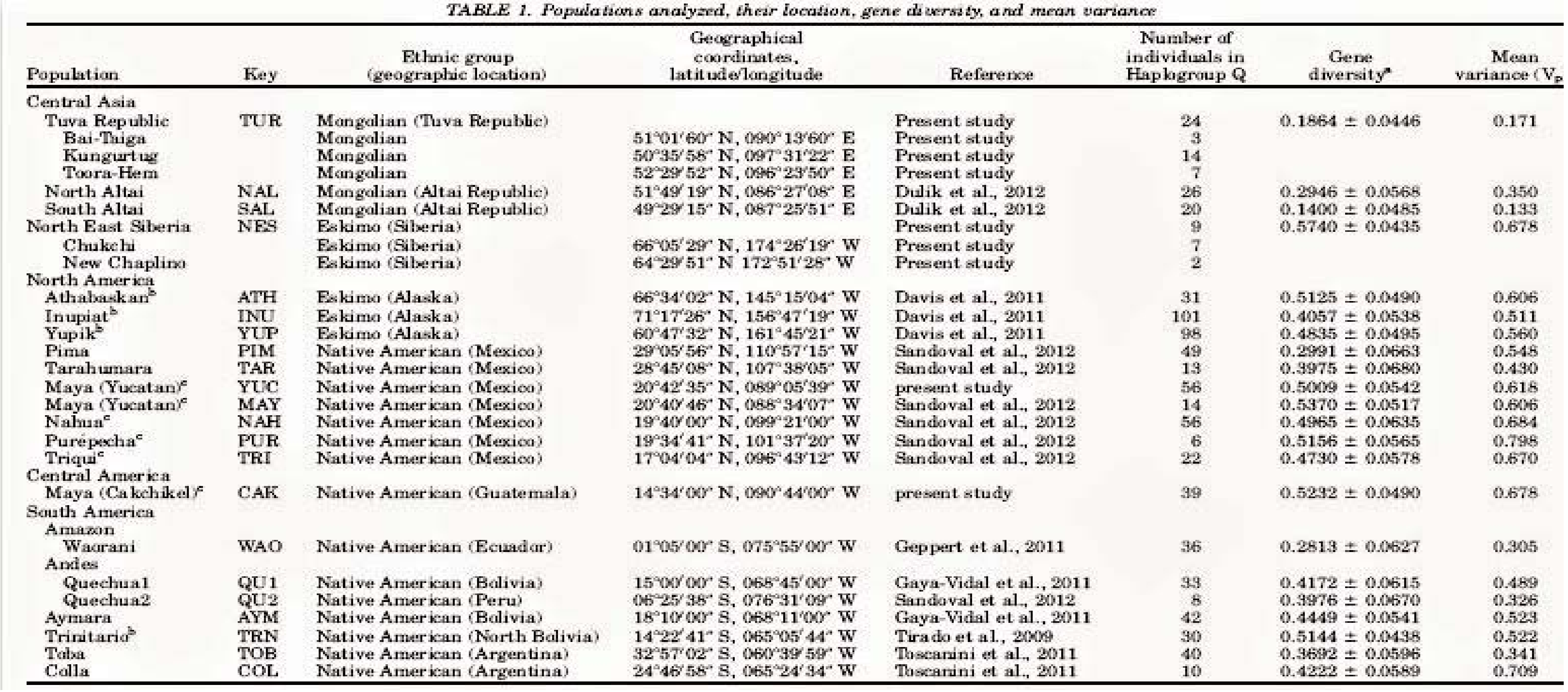
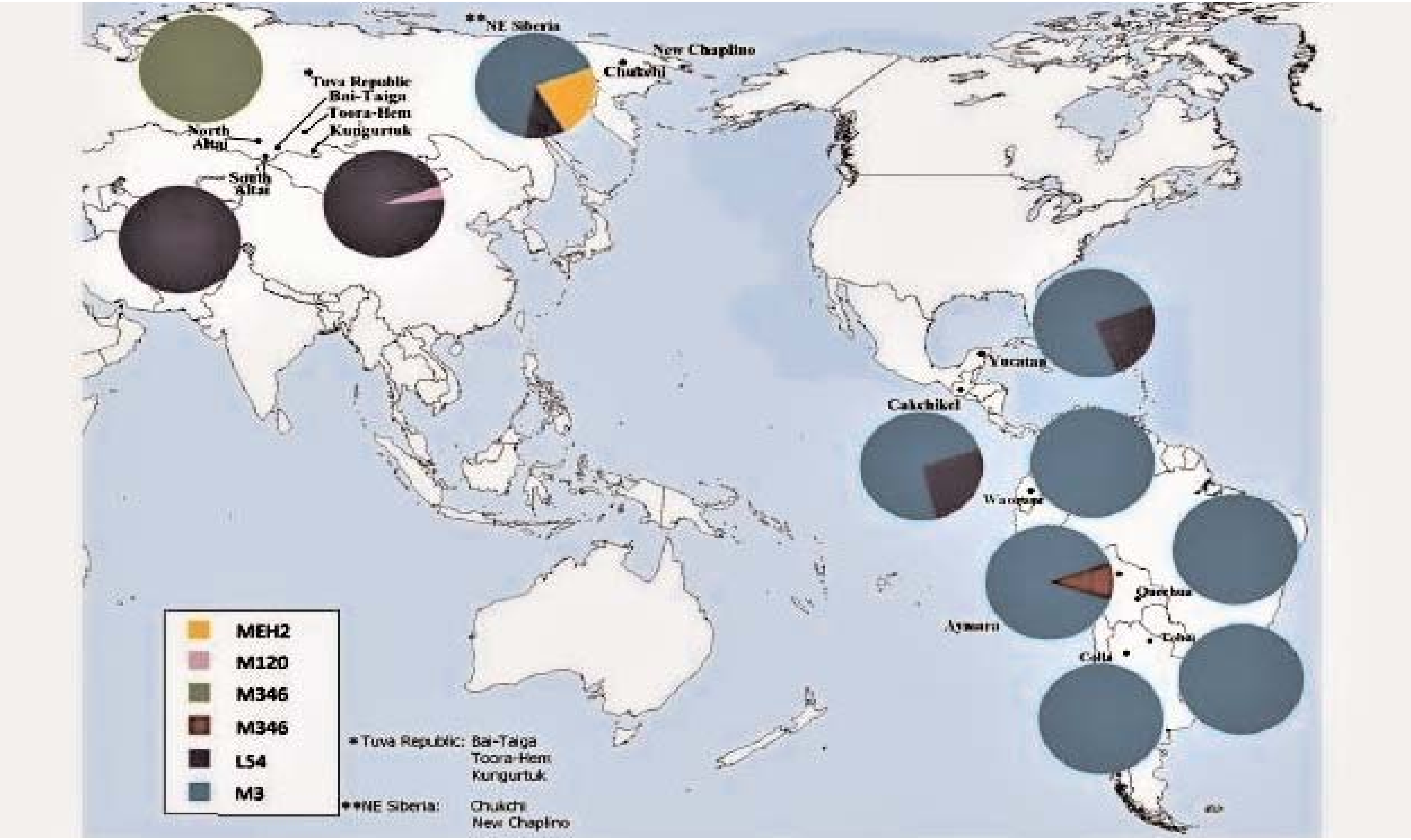


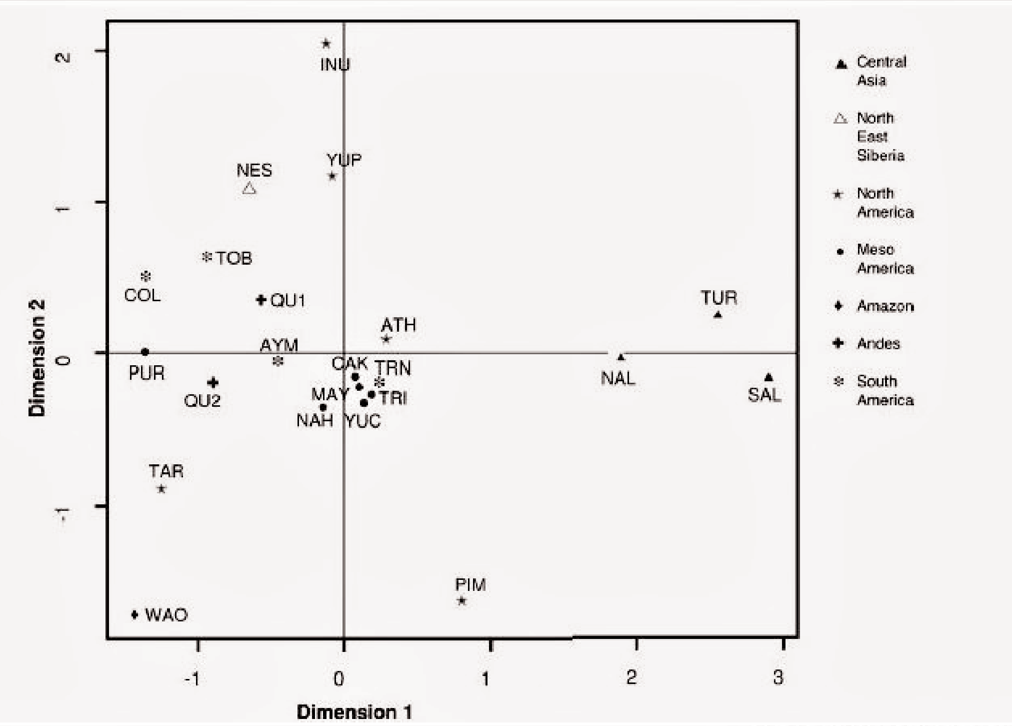
TABLE 1. Populations analyzed, their location, gene diversity, and mean variance

Population	Key	Ethnic group (geographic location)	Geographical coordinates, latitude/longitude	Reference	Number of individuals in Haplogroup Q	Gene diversity[a]	Mean variance (V_p
Central Asia							
Tuva Republic	TUR	Mongolian (Tuva Republic)		Present study	24	0.1864 ± 0.0446	0.171
Bai-Taiga		Mongolian	51°01′60″ N, 090°13′60″ E	Present study	3		
Kungurtug		Mongolian	50°35′58″ N, 097°31′22″ E	Present study	14		
Toora-Hem		Mongolian	52°29′52″ N, 096°23′50″ E	Present study	7		
North Altai	NAL	Mongolian (Altai Republic)	51°49′19″ N, 086°27′08″ E	Dulik et al., 2012	26	0.2946 ± 0.0568	0.350
South Altai	SAL	Mongolian (Altai Republic)	49°29′15″ N, 087°25′51″ E	Dulik et al., 2012	20	0.1400 ± 0.0485	0.133
North East Siberia	NES	Eskimo (Siberia)		Present study	9	0.5740 ± 0.0435	0.678
Chukchi		Eskimo (Siberia)	66°05′29″ N, 174°26′19″ W	Present study	7		
New Chaplino		Eskimo (Siberia)	64°29′51″ N 172°51′28″ W	Present study	2		
North America							
Athabaskan[b]	ATH	Eskimo (Alaska)	66°34′02″ N, 145°15′04″ W	Davis et al., 2011	31	0.5125 ± 0.0490	0.606
Inupiat[b]	INU	Eskimo (Alaska)	71°17′26″ N, 156°47′19″ W	Davis et al., 2011	101	0.4057 ± 0.0538	0.511
Yupik[b]	YUP	Eskimo (Alaska)	60°47′32″ N, 161°45′21″ W	Davis et al., 2011	98	0.4835 ± 0.0495	0.560
Pima	PIM	Native American (Mexico)	29°05′56″ N, 110°57′15″ W	Sandoval et al., 2012	49	0.2991 ± 0.0663	0.548
Tarahumara	TAR	Native American (Mexico)	28°45′08″ N, 107°38′05″ W	Sandoval et al., 2012	13	0.3975 ± 0.0680	0.430
Maya (Yucatan)[c]	YUC	Native American (Mexico)	20°42′35″ N, 089°05′39″ W	present study	56	0.5009 ± 0.0542	0.618
Maya (Yucatan)[c]	MAY	Native American (Mexico)	20°40′46″ N, 088°34′07″ W	Sandoval et al., 2012	14	0.5370 ± 0.0517	0.606
Nahua[c]	NAH	Native American (Mexico)	19°40′00″ N, 099°21′00″ W	Sandoval et al., 2012	56	0.4965 ± 0.0635	0.684
Purepecha[c]	PUR	Native American (Mexico)	19°34′41″ N, 101°37′20″ W	Sandoval et al., 2012	6	0.5156 ± 0.0565	0.798
Triqui[c]	TRI	Native American (Mexico)	17°04′04″ N, 096°43′12″ W	Sandoval et al., 2012	22	0.4730 ± 0.0578	0.670
Central America							
Maya (Cakchikel)[c]	CAK	Native American (Guatemala)	14°34′00″ N, 090°44′00″ W	present study	39	0.5232 ± 0.0490	0.678
South America							
Amazon							
Waorani	WAO	Native American (Ecuador)	01°05′00″ S, 075°55′00″ W	Geppert et al., 2011	36	0.2813 ± 0.0627	0.305
Andes							
Quechua1	QU1	Native American (Bolivia)	15°00′00″ S, 068°45′00″ W	Gaya-Vidal et al., 2011	33	0.4172 ± 0.0615	0.489
Quechua2	QU2	Native American (Peru)	06°25′38″ S, 076°31′09″ W	Sandoval et al., 2012	8	0.3976 ± 0.0670	0.326
Aymara	AYM	Native American (Bolivia)	18°10′00″ S, 068°11′00″ W	Gaya-Vidal et al., 2011	42	0.4449 ± 0.0541	0.523
Trinitario[b]	TRN	Native American (North Bolivia)	14°22′41″ S, 065°05′44″ W	Tirado et al., 2009	30	0.5144 ± 0.0438	0.522
Toba	TOB	Native American (Argentina)	32°57′02″ S, 060°39′59″ W	Toscanini et al., 2011	40	0.3692 ± 0.0596	0.341
Colla	COL	Native American (Argentina)	24°46′58″ S, 065°24′34″ W	Toscanini et al., 2011	10	0.4222 ± 0.0589	0.709

There are thus 24 samples out of 146 of haplogroup Q in the Republic of Tuva, 9 out of 32 in northeastern Siberia, 56 out of 72 in Yucatán and 39 out of 43 in Guatemala. 8 markers were studied. Their frequencies in the different populations are given below: The geographical distribution of these different markers is given below: L54 is the most common SNP in the Republic of Tuva, while M3 is dominant among the Mayans and northeastern Siberia. MEH2 is only present in northeast Siberia.

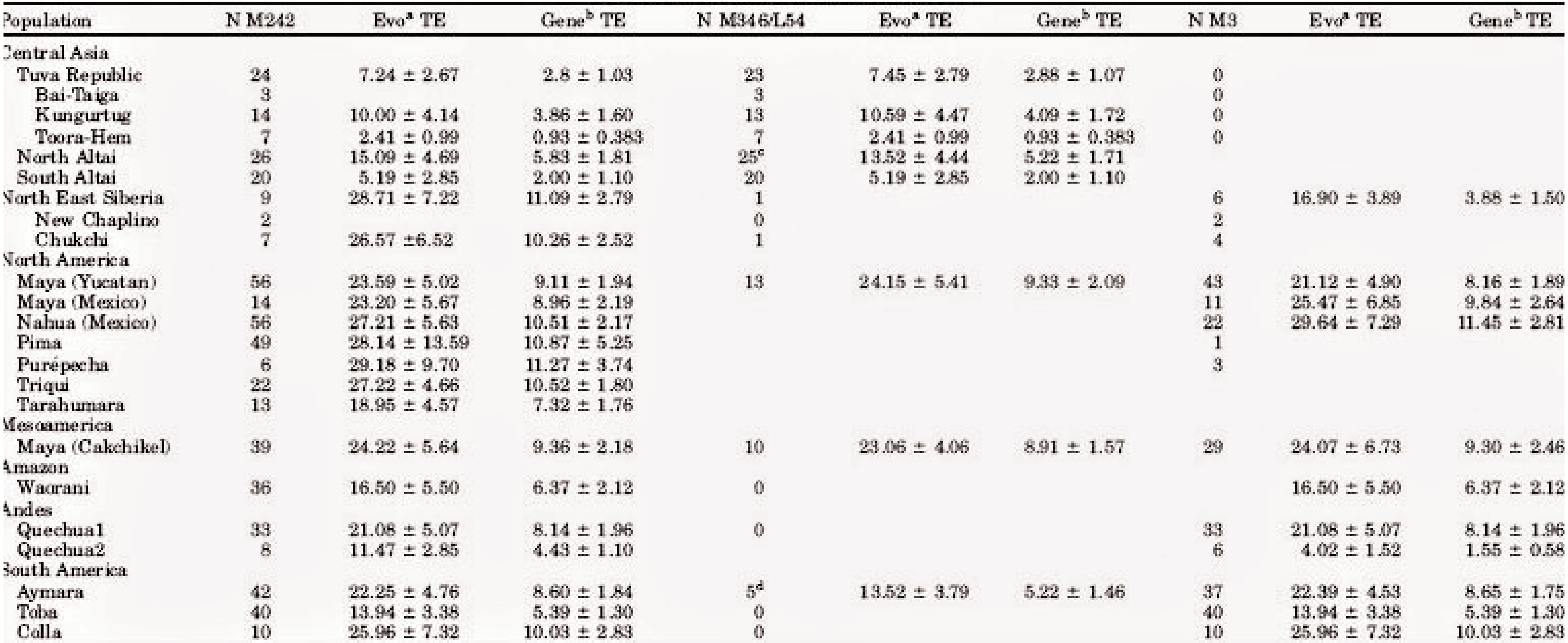
Analysis of the different haplotypes shows that the greatest diversity is found in northeastern Siberia, followed by the Mayans. Multidimensional analysis based on genetic distance makes it possible to clearly differentiate the populations of Central Asia which have the lowest diversity.





The estimates of the coalescence times of the different haplogroups were made with the rate of evolutionary mutation of Zhivotovsky and the rate of genealogical mutation of Goedbloed: (top left)

The genealogical mutation rate gives results 3 times younger than the evolutionary mutation rate. In general, the genealogical rate is more in agreement with the archaeological data. However, some have proposed that the pedigree rate applies more to recent data with low diversity, while the evolutionary rate applies more to older data with greater diversity. The oldest coalescence times for all of haplogroup Q are located in northeastern Siberia (11,090 +/- 2,790 years), and in North America among the Purepecha (11,270 +/- 3,740 years) and Pima (10,870 +/- 5,250 years). For SNP M3, the oldest dates are for the Nahuas of North America (11,450 +/- 2,810 years).



Population	N M242	Evo[a] TE	Gene[b] TE	N M346/L54	Evo[a] TE	Gene[b] TE	N M3	Evo[a] TE	Gene[b] TE
Central Asia									
Tuva Republic	24	7.24 ± 2.67	2.8 ± 1.03	23	7.45 ± 2.79	2.88 ± 1.07	0		
Bai-Taiga	3			3			0		
Kungurtug	14	10.00 ± 4.14	3.86 ± 1.60	13	10.59 ± 4.47	4.09 ± 1.72	0		
Toora-Hem	7	2.41 ± 0.99	0.93 ± 0.383	7	2.41 ± 0.99	0.93 ± 0.383	0		
North Altai	26	15.09 ± 4.69	5.83 ± 1.81	25[c]	13.52 ± 4.44	5.22 ± 1.71			
South Altai	20	5.19 ± 2.85	2.00 ± 1.10	20	5.19 ± 2.85	2.00 ± 1.10			
North East Siberia	9	28.71 ± 7.22	11.09 ± 2.79	1			6	16.90 ± 3.89	3.88 ± 1.50
New Chaplino	2			0			2		
Chukchi	7	26.57 ±6.52	10.26 ± 2.52	1			4		
North America									
Maya (Yucatan)	56	23.59 ± 5.02	9.11 ± 1.94	13	24.15 ± 5.41	9.33 ± 2.09	43	21.12 ± 4.90	8.16 ± 1.89
Maya (Mexico)	14	23.20 ± 5.67	8.96 ± 2.19				11	25.47 ± 6.85	9.84 ± 2.64
Nahua (Mexico)	56	27.21 ± 5.63	10.51 ± 2.17				22	29.64 ± 7.29	11.45 ± 2.81
Pima	49	28.14 ± 13.59	10.87 ± 5.25				1		
Purépecha	6	29.18 ± 9.70	11.27 ± 3.74				3		
Triqui	22	27.22 ± 4.66	10.52 ± 1.80						
Tarahumara	13	18.95 ± 4.57	7.32 ± 1.76						
Mesoamerica									
Maya (Cakchikel)	39	24.22 ± 5.64	9.36 ± 2.18	10	23.06 ± 4.06	8.91 ± 1.57	29	24.07 ± 6.73	9.30 ± 2.46
Amazon									
Waorani	36	16.50 ± 5.50	6.37 ± 2.12	0				16.50 ± 5.50	6.37 ± 2.12
Andes									
Quechua1	33	21.08 ± 5.07	8.14 ± 1.96	0			33	21.08 ± 5.07	8.14 ± 1.96
Quechua2	8	11.47 ± 2.85	4.43 ± 1.10				6	4.02 ± 1.52	1.55 ± 0.58
South America									
Aymara	42	22.25 ± 4.76	8.60 ± 1.84	5[d]	13.52 ± 3.79	5.22 ± 1.46	37	22.39 ± 4.53	8.65 ± 1.75
Toba	40	13.94 ± 3.38	5.39 ± 1.30	0			40	13.94 ± 3.38	5.39 ± 1.30
Colla	10	25.96 ± 7.32	10.03 ± 2.83	0			10	25.96 ± 7.32	10.03 ± 2.83

So the Q-M3 mutation happened shortlyemps after the emergence of Q-L54. This supports the idea of an isolation of the first American populations creating a demographic scenario which favors multiple episodes of genetic drifts resulting from bottlenecks and founding effects. The low diversity of haplogroup Q in Central Asia is probably the result of founding effects followed by genetic drifts caused by the nomadic lifestyle. It is also possible that this is due to recent demographic events which have modified the genetic landscape of this region, or quite simply to the effects of under-sampling.

The predominance and ubiquity of the Native American M3 SNP is consistent with a single pre-Holocene migratory event. The close coalescence times between L54 and M3 suggest that the population of the Americas was rapid. The complete Paleo-Eskimo sequencing of the Saqqaq culture, dated 4000 years ago, on the other hand, indicates a recent migration dated around 5,500 years ago between northeast Siberia and the Americas.

The great diversity within the Q-M3 haplogroup indicates a strong increase in the population of the Americas probably due to the advent of the Neolithic between 2000 and 1000 BC. JC. The Mayan population is thus maximum in the classical period around 750 AD.

Ixchel is the goddess of motherhood and the moon and is associated with water. Represented by an old lady, she protects women and patronizes weaving. It can also present itself in a malicious guise and be responsible for destruction, flooding and tropical storms.

Itzamna is the supreme god who created the universe. It is also from him that the knowledge of agriculture, writing and astronomy comes. He was usually depicted as a cosmic serpent-crocodile-like monster who, once on earth, grew into an old man.

The Mayas

Indian people of Central America, founder of a brilliant pre-Columbian civilization which extended over the current territories of the Mexican states of Chiapas and Yucatán, and those of Belize, Guatemala and Honduras. Today, the Mayans number some 2 million who belong to the Mayan linguistic group. In the tropical forests of Petén and the arid lands of Yucatán, the Mayans have, for more than two millennia, developed a prestigious civilization. In the 9th century AD, their cities were gradually abandoned, only to be rediscovered by explorers from the 19th century. But the Mayan peoples have known how to preserve their identity to this day, despite invasions and conquests.

The origins

A stable people Coming from Asia via the Bering Strait, like all American peoples, the Mayans settled at a date which is still unknown in the territory currently occupied by their descendants. However, it can be said that this people, or rather these peoples - because it is necessary to distinguish, according to their language, the Chols, the Chortis, the Yucatecs and many others (the Maya itself grouping 24 Indian languages) - knew exceptional stability: despite the vicissitudes of history, the Mayans have not moved since the second millennium BC.

The Mayan area

North America: economies and cultural areas around 1500 Their territory covers south-eastern Mexico, Belize and Guatemala, western El Salvador and Honduras, between 14 degrees and 22 degrees north latitude: the whole country is therefore tropical, but this uniformity is only apparent. The Maya area is traditionally divided into three geomorphological groups: the southern volcanic highlands, fertile and temperate; the central lowlands, well drained by large rivers, such as the Motagua or the Usumacinta; the arid limestone plateau of Yucatán, to the north, with underground drainage. This distinction must be qualified because of the diversity of the relief, soils and climate. The central lowlands are interspersed with large valleys but abut to the southeast on the Maya Mountains. The vast limestone plateau of Yucatán is interrupted by the chain of hills of Puuc. To this variety of landscapes corresponds the multiplicity of local cultural manifestations: if there is indeed a Mayan civilization, one cannot underestimate the richness of its interior diversity.

A long maturation

The Mayans created arable land by cutting down and burning vegetation. They cultivated corn and secondary plants such as beans, squash and tobacco. In the western plateaus, they cleared the jungle for crops. After a period of two years, they cultivated new fields, leaving the old ones fallow for ten years before reseeding them.

They lived in small villages made up of groups of houses occupied by extended families. Their thatched-roof houses were usually one-room huts with walls made of crisscrossed wooden posts covered with dried mud. These huts were mostly used for sleeping, daily chores such as cooking were done outside in a central common space. The division of labor between men and women was clearly defined: the men maintained the huts and tended the cornfields, and the women prepared meals, made clothes and looked after the needs of the family. These ancient farming methods and family traditions have survived over the centuries and are still the way of life of many rural communities.

By the Middle Preclassic, Olmec beliefs and ideas about the hierarchical organization of society had probably spread in Mayan society. The southern Mayans, in the mountain valleys, chose to regroup under the authority of high-ranking chieftains or kings, but most of the lowland Mayans resisted the pressure, preferring tribal confederations that recognized no power in the above the elders of their villages. The recent Preclassic saw the appearance of the ahau, or great king, and the rise of kingdoms throughout the Mayan land. Over the next millennium, the principles of kingship would dominate the life of the Mayans.

In each Mayan kingdom, the society was composed, in a hierarchical order, of kings, nobles, masters, scribes, warriors, architects, administrators, artisans, merchants, workers and 'farmers. Besides the capital, there were a number of distant secondary centers, towns of a certain size or simple hamlets and farms inhabited by an extended family.

There are several reasons why the Mayans moved from small farming communities administered by local officials to complex kingdoms in the Classical period. The discovery of ways to collect rainwater and the creation of new arable land for agriculture played a big part in this development. A not insignificant labor force was organized to build and maintain the hydraulic systems (reservoirs, cisterns, canals) and to take care of the corn fields. These innovations have made it possible to increase food production and create a surplus, develop trade with neighboring states, and therefore promote population growth. The fact that a government was needed to administer the increasingly numerous and complex urban and rural activities may be part of the reason why the Mayans endowed themselves with kings.

As towns grew, in part due to the arrival of people from outside the region, they increasingly nibbled away at arable land. Population growth, droughts and poor harvests may have been the cause of severe food shortages and malnutrition. When harvests were poor, people may have been forced to move elsewhere to survive. Other factors in the decline of the southern lowland towns around 900 AD. AD are perhaps:

the escalation of hostilities later in the Classic period;
the repugnance of the increasingly frequent state of butter;
the high cost of maintaining royalty and nobles;
the expense of building more and more temples;
and the habit of taking common people for human sacrifices (during the Ancient Classic, only captured kings and nobles were thus sacrificed).

Whatever the reasons, the Mayans decided to return to a simpler way of life by growing corn and living in rural villages quite similar to those today.

The northern Mayans also entered a new phase when they came under the influence of their Toltec neighbors and other groups who settled in the Yucatán Peninsula.

Implantation

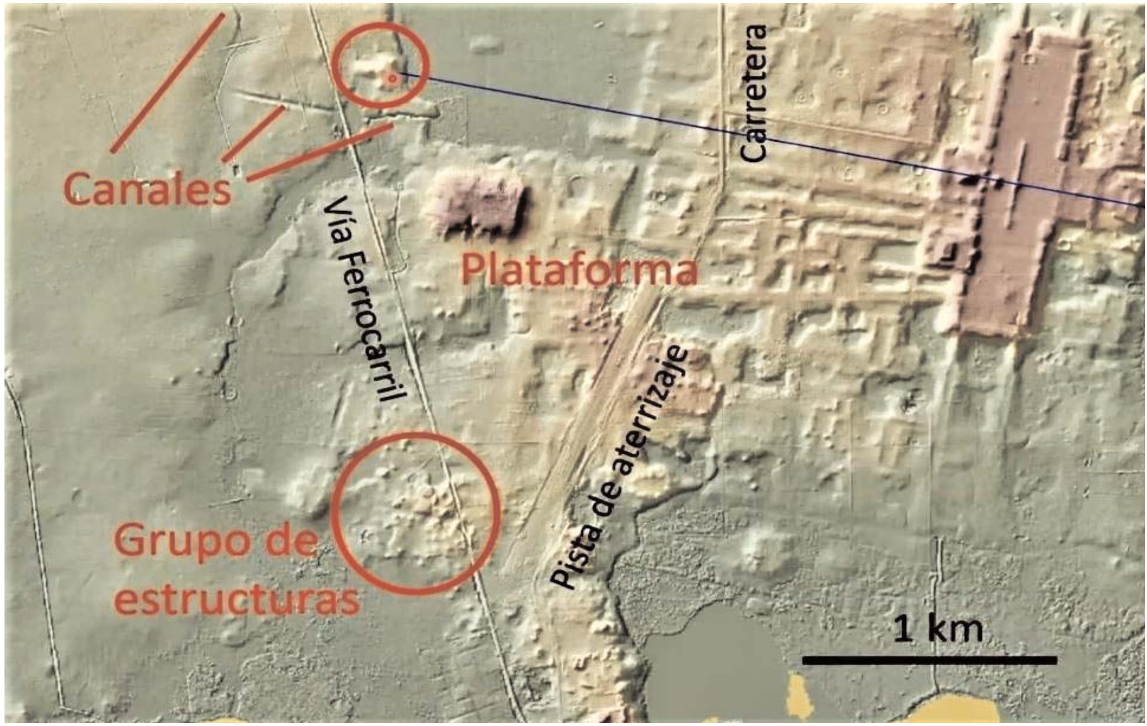
Traces of occupation prior to the second millennium have been identified in the highlands (Los Tapiales), Belize and Yucatán (Loltún caves). But the oldest houses - with nearby public buildings - that archaeologists have discovered, at Cuello, date only to 1000 BC They also recognized a mat pattern, generally associated with the idea of power and which is therefore the index of a social hierarchy. Objects in jade or obsidian, minerals imported from distant deposits, prove the existence of long-distance exchanges. At this time, many sites were occupied, such as Tikal, and the Mayans gradually colonized all the lowlands. However, it is difficult to define the nature of their relations with neighboring civilizations, the Olmecs for example: it seems that the centers of the southern highlands, Izapa, Abaj Takalik or Kaminaljuyú, have inherited certain Olmec traits, to elaborate on their own. their traditions (writing, calendar), but the modalities of their adoption in the lowlands remain unexplained.

Autonomous cities

Around 300 BC, an acceleration phenomenon occurs: to the multiplication of sites is added an intense architectural activity, a sign of a strong increase in the population.In Komchén or in El Mirador, the inhabitants build vast platforms or pyramids; in Cerros the first ball courts appear. The corbelled vault is used in Tikal for tombs decorated with paintings. Large stucco masks adorn the facades, in Cerros or Uaxactún. Each site develops independently, nevertheless the same red ceramic is used everywhere, an undeniable mark of cultural unity.

Aguada Fénix - The oldest Mayan ceremonial complex

Aged 3,000 years old, Aguada Fénix, the most monumental ceremonial complex in all of the Mayan civilization, was first spotted in the state of Tabasco, Mexico. It would be the largest pre-Hispanic construction encountered to date in Central America. This immense 1.4 kilometer long platform, built by the Mayan civilization, is said to have been built 3000 years ago - well before the famous pyramids found in the region - which also makes it the oldest Mayan monument. .



More extensive than the pyramidal complex of La Danta (400 BC - 200 AD), built in a natural hill on the site of El Mirador (Guatemala); prior to Seibal (950 BC), considered until then as the oldest Mayan ceremonial center… Aguada Fénix breaks all records! This site, detected in the Mexican state of Tabasco, southwest of the Yucatan peninsula, now appears to be the largest and oldest structure ever observed for this ancient civilization: an artificial platform oriented north-south of 1400m long, 400m wide and about fifteen meters high, from which would radiate nine main causeways. This discovery, concomitant with that of 21 other lesser sites, follows Lidar (Light Detection and Ranging) surveys. This airborne remote sensing method uses laser pulses coupled with high-precision GPS to detect structures on the ground, including those under the canopy. Revolutionary, it allows to generate digital 3D maps and its use, in recent years has upset the study of the Mayan world by revealing countless totally unknown sites. This is what happened for Takeshi Inomata, archaeologist at the University of Tucson (Arizona) with the discovery of this gigantic structure hitherto undetectable on the ground.

Aguada Fénix would have been erected around 1000 BC, a period that the "Mayanists" - specialists in the Mayan world - qualify as "middle preclassic" (1000-350 BC). Either before the peak period of this so-called "classical" civilization (between 250 and 900). Even more than the famous sites with pyramids built in stone and rising vertically - like Tikal (Guatemala) or Palenque (Mexico) 1500 years later - "the structure in earth and clay of Aguada Fénix constitutes a platform which required significant community mobilization to amass millions of cubic meters of earth and clay (between 3.2m3 and 4.3m3), "explains Takeshi Inomata, the lead author of the study." This ceremonial site was- Is it intended for mass rituals? Crowds could have gathered there during huge processions, "wonder researchers at the University of Arizona. Maybe during calendar events? Speculation supported by the presence in the center of the platform of a building known in the Mayan universe under the enigmatic name of "Group E". A unique type of structure, specific to this civilization, linked to the solar calendar and ceremonial concerns. Regardless, the gigantic platform appears to have operated for barely 200 years before being abandoned along with several neighboring sites around 800-750 BC.

The Protoclassic Era

Tensions appear, perhaps due to this rapid growth, between 50 and 250 of our era, a period traditionally referred to as "Protoclassic". We do not know if this is because of internal difficulties or if it is the consequences of an invasion, but some sites, like El Mirador, Komchén or Cerros, disappear definitively, while others, Tikal or Dzibilchaltún , are required. Cities decline temporarily (Seibal) or strengthen (Becan). Instability reigns and benefits certain cities, for example Tikal, which will now count during the following period, known as the "old classic".

Towards dynastic power

Each city state had a governor: the halach uinic (the real man). Often, power was passed from father to son. It was he who ensured the internal and foreign policy of his State and received the tax. Yet he did not rule on his own. A council of state, made up of the principal chiefs and priests, assisted him in his task.

Under him was the batab, in other words, a local chief responsible for ensuring the smooth running of the village. He also managed the army and the soldiers who were themselves commanded by the nacom (military leader). Elected for a period of three years, he did not eat meat and did not have relations with women. Finally the tulips (small officials) acted as local policemen.

Society was also divided into caste

Besides this very military and legal aspect, the company itself followed very precise patterns. Four classes coexisted: the nobles, the priests, the people and the slaves.

It was the ahkin (priests) who had the most prestige and power. Their role was very extensive and ranged from those who took care of worship to those who predicted the future, the Chilanes, or even the priests called nacom.

The people, who made up the majority of the population, worked in the fields and built the various buildings in the city. Finally the slaves, who had no rights, were most often made up of prisoners or delinquents.

In 292, Tikal erected the first known dated stele, thus claiming a dominant political power for his dynasty, which would impose its mark on much of the Mayan world. Tikal's role seems to have been reinforced by his ties to the great metropolis of central Mexico, Teotihuacán. The latter city, populated by around 200,000 inhabitants, then exerted its influence over all of Mesoamerica, and we find evidence of it both in the highlands and in the lowlands, in Kaminaljuyú, Becan, Yaxhá or Altun Ha. But Tikal enjoys privileged relations: some of its leaders are said to be allied with Mexican groups, and the support of the metropolis, which manifests itself in architecture, ceramics and sculpture, is no stranger to Tikal's political game. : alliances (with Uaxactún) or conquests (the dynasty of Río Azul is driven out and replaced).

Cultural heyday

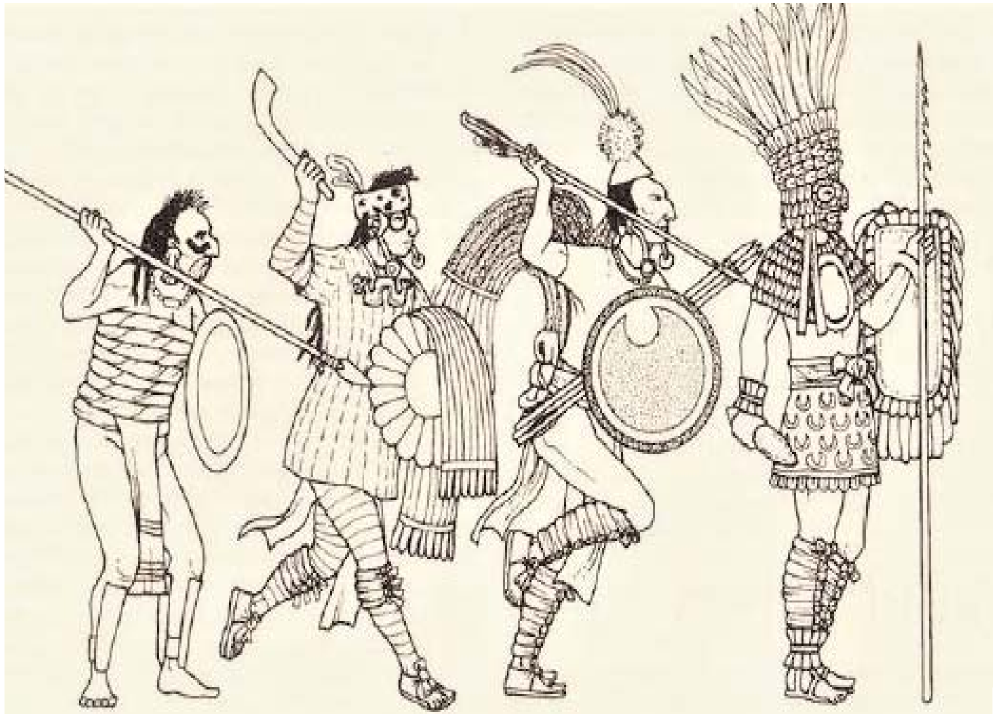
Towards the middle of the 6th century, however, in Mayan territory there was a slowdown in activities, which resulted in the interruption of the erection of dated monuments. This stop marks the end of the old classic. Soon a revival of architectural and artistic activity took place, accompanied by a strong increase in population: large sites were still developing, others were emerging from their lethargy, like Seibal, and new cities were founded. Around centers where pyramids and sculpted monuments abound are organized city-statesthat compete in prestige. The Mayan culture reached its peak: it lasted until the tenth century.

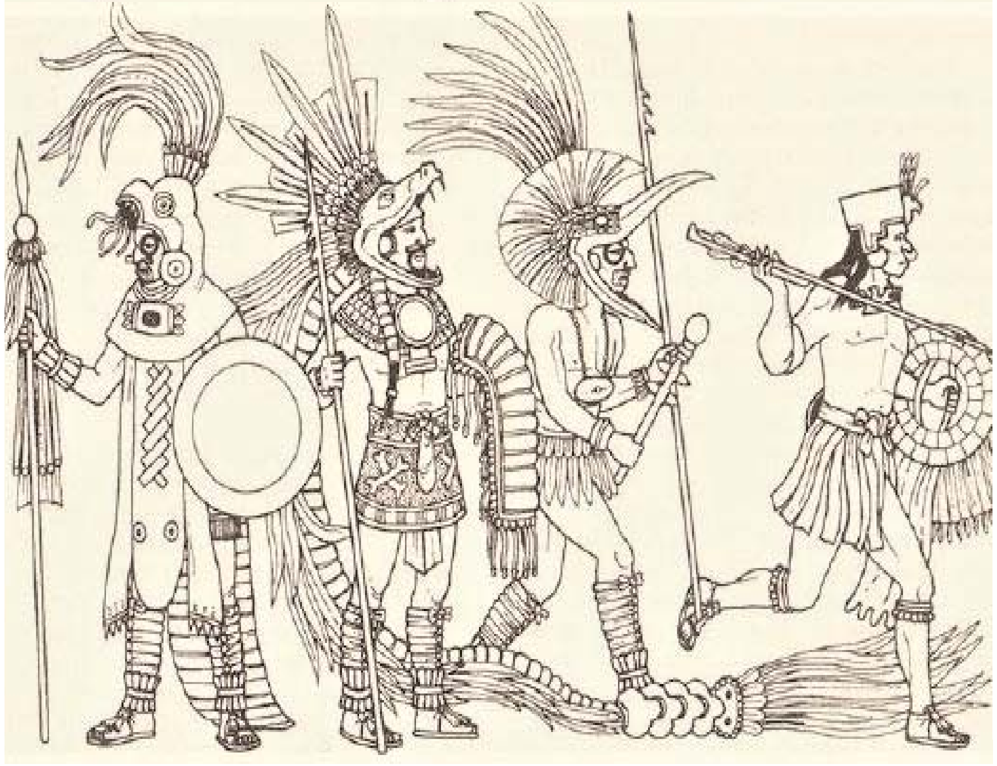
Mayan writing

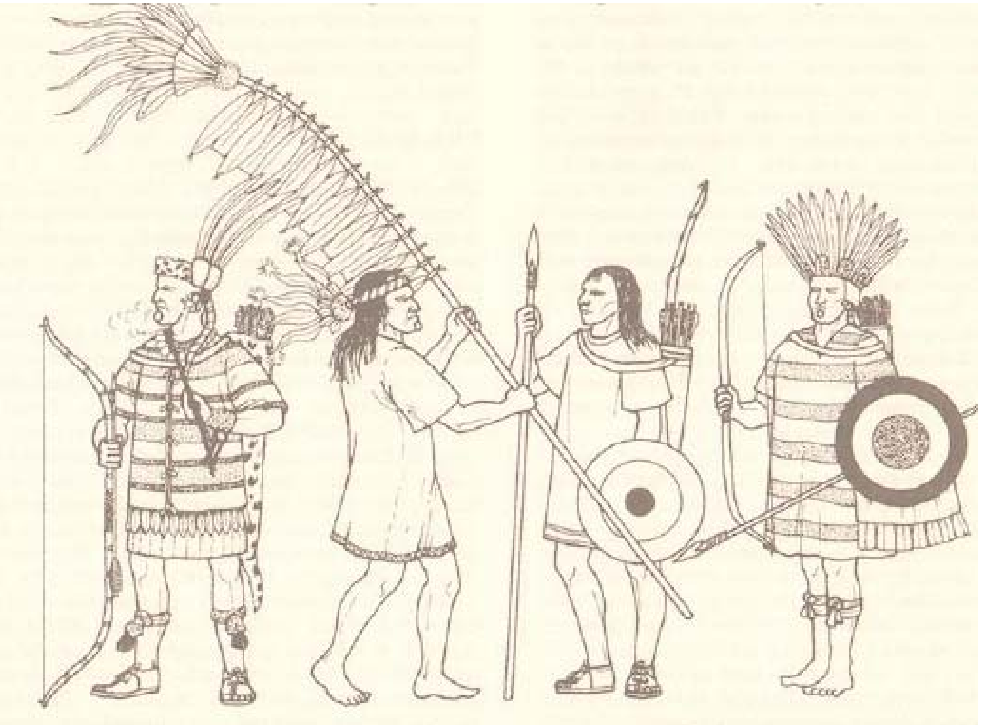
Glyphs

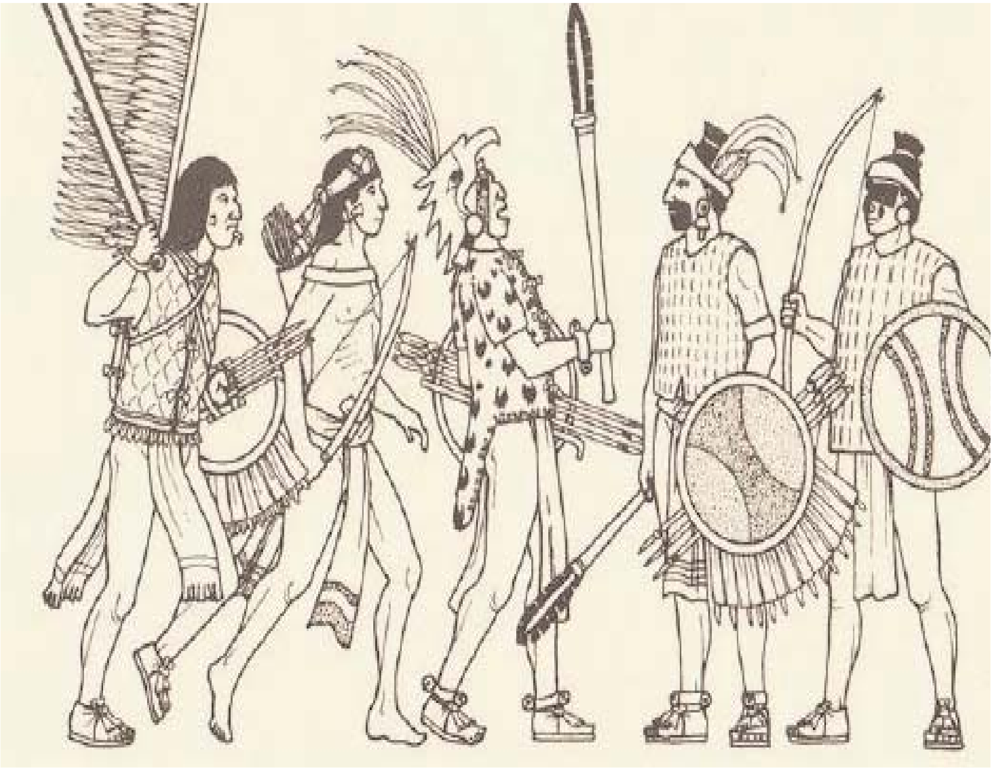
The writing of the Mayans is a combined system of ideographic and syllabic signs. Each glyph is made up of a main sign and affixes which complete its meaning. These glyphs can be nouns, verbs, and form sentences. While many relate to acts or designate dynastic leaders, an important part corresponds to the division of time.

MAYAS









ZAPOTHÈQUES

MIXTÈQUES

The calendar

In mathematics, the Mayans use three signs: the point equals one, the bar is five, and a seashell symbolizes zero. They count from 20 to 20, and, along with zero, use positional numbering. It is on these bases that was developed a system of division of time, by cycles and from a day origin. When we give a date, for example Monday January 1, 1993, we combine several cycles, one of 7 days, the second of 28 to 31 days, the third of 12 months; and we complete with a number of years elapsed from an origin year. The Mayan calendar is similar: a first ritual calendar combines 13 numbers and 20 names of days, ie 260 possibilities; a second calendar, solar, has 18 months of 20 days, plus 5 harmful days, or 365 days. Before the same day returns in both systems simultaneously, 18,980 days (approximately 52 years) must pass. The last element is based on the number of days passed since an initial date, i.e. day 4 Ahau (ritual calendar) 8 Cumku (solar calendar) of the year 3113 BC As with our units, tens and hundreds, the Mayans use subdivisions: the kin, or day, is the basic unit; the uinal is equivalent to 20 days, the tun to 360, the katun to 7,200 and the baktun to 144,000. The Mayans regularly erected dated monuments and inscribed dates on stelae and vases, a sign of their obsession with time.

The economy of the Mayan world

Agriculture

Like other peoples on the continent, the Mayans were ignorant of metallurgy and animal husbandry, and therefore did not have any draft animals. Their economy, close to that of the Neolithic, is therefore essentially based on agriculture and dressed stone. Slash-and-burn agriculture is the most common system: the peasant clears a field (the milpa) in the dry season, then burns the vegetation, the ash playing the role of fertilizer; the field is sown at the beginning of the rainy season, and the harvest is done in the fall. The same field, quickly exhausted, can only be cultivated for two or three years in a row, then must be left fallow for more than ten years. Each city therefore needed large territories for its subsistence, otherwise it could only feed a small population. However, the size of most of the cities and the scale of the work carried out in a short period of time suggests that this mode of production could not meet the needs. The Mayans had developed more intensive systems, such as agriculture in terraces (in Caracol or Río Bec) or in vegetable gardens, around houses: a Mayan site is not a city as in the Old World, but a dispersed habitat, without streets, around a highly concentrated central nucleus. Hunting, fishing and gathering were additional resources.

A fragile balance

Most of the economic activity took place within the family. But the manufacture of luxury ceramics, the production of clothing for the elite, the construction of buildings or sculpture suggest the existence of categories of specialists. But above all, the diversity of the territory is accompanied by a variety of resources. Coastal areas produce salt (and cured meats), which is lacking in other cities: production must therefore be intensive. In Colha, the presence of flint deposits allows the mass production of agricultural tools: vast workshops have indeed been identified there.

In the absence of wheels or draft animals, only portage or navigation made exchanges possible, in small quantities orover short distances. Long-distance trade could only concern luxury goods, also in small quantities. The economic situation was therefore stable, but fragile, sensitive to all contingencies.

Mayan society

Social organization

The simplicity of this economy responded to a complex social structure, based on a patrilineal family organization, a sexual division of labor and a distribution by sector of activity. The farmers, that is to say the major part of the population, were divided into peasants, servants and slaves. The elite, for their part, were divided into warriors, priests, administrators and leaders.

Moreover, the elite and the people did not form antagonistic categories, for ties of kinship or alliance united leaders and servants, chiefs and peasants. The urban organization reflects this unity quite well, from the scattered settlements of the periphery, built of perishable materials, to the heart of sites full of prestigious buildings, where the elite reside: most of the large buildings, pyramids or palaces. , are associated with the ruling lineage, and the main pyramid frequently houses the tomb of a chief or ancestor.

Mayan cosmogony

More than a worship of gods (the Mayas have a multiplicity of divinities, who receive natural elements as worship symbols: sources, clouds, wind, etc.), religious life and its manifestations seem to be linked to the worship of ancestors. The stelae or inscriptions of Copán, for example, represent the king, surrounded by his ancestors and his lineage. Tombs and pyramids are architectural signs of a dynasty's power, and wall paintings, such as those by Bonampak, glorify his actions. The Mayan cosmogony is the reflection of a pessimistic worldview (at the head of the Mayan pantheon is Chac, a zoomorphic god who delights in human sacrifices) - as evidenced by the Popol-Vuh - and of a conception of the history founded on a succession of eras punctuated by floods or fires, and which we discover in the chronicles of Chilam-Balam. The king, by the rites and by his acts, ensures the perenniality of the world.

Divisions and decadence

In an unstable universe and considered such, in the absence of an elaborate technology and faced with a permanent population growth, the Mayans could not face the fate they dreaded so much. War and internal crises led to the decadence and then the fall of their cities. Thanks to their ability to adapt or to foreign contributions (the Toltecs), certain regions have for a time escaped the common fate, such as the cities of Puuc, Uxmal, Sayil or Kabah. In the postclassic period, Chichén Itzá was even able to be, for a short period, the head of a real state. But the cities of Yucatán were in turn hit by conflict. Chichén Itzá was abandoned around 1200, then Mayapán; then Yucatán was divided into rival provinces around minor centers, Tulum or Tayasal.

When the Spaniards tried to penetrate Yucatán, division reigned, but the conquest was not facilitated: the Yucatán was not submitted until 1540, Tayasal fell in 1697. A century and a half later, the insurrections of the war castes will show the superficiality of the conquest.

MAYAS LEGENDS

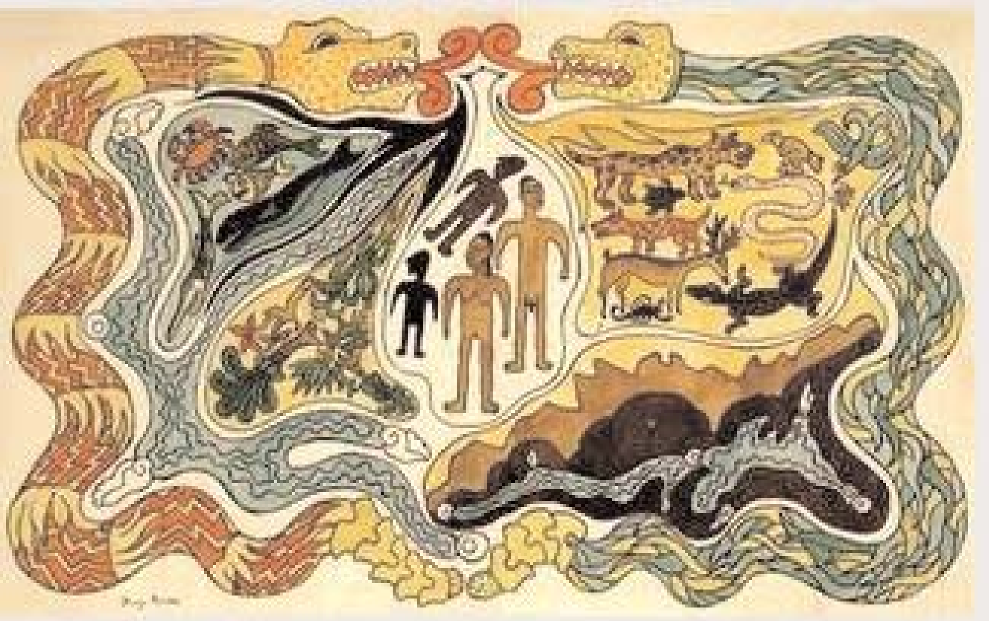
CREATION OF THE WORLD

Once upon a time there was no man, no animal, no trees, no stones on earth. There was nothing. It was only a vast, desolate and limitless expanse, covered by water. In the silence of darkness lived the gods Tepeu, Gucumats and Hurakan. They talked to each other and agreed on what to do.

They brought forth the light which illuminated the earth for the first time. Then the sea receded, revealing land that could be cultivated, where trees and flowers would grow.

Sweet scents newly created forests arose.
The gods rejoiced at this creation. But they believed that the trees should not be left without guardians and servants. So they placed all kinds of animals under the branches and near the trunks. But these remained motionless until the gods gave them orders:

- You, you will drink in the rivers. You will sleep in the caves. You will crawl on all fours and one day your back will be used to carry loads. You, bird, you will live in the trees and you will fly in the air without being afraid of falling.



The animals did as they were ordered. The gods believed that all living things should be submissive in their natural environment, but they should not live in silence; for silence is synonymous with desolation and death.

So they gave them voice. But the animals only knew how to cry, without expressing a single intelligent word.

Saddened, the gods took advice and then addressed the animals:
- Because you were not aware of who we were, you will be condemned to live in fear of others. You will devour each other without any loathing.

Hearing this, the animals tried to speak. But only cries came out of their throats and snouts. The animals resigned themselves and accepted the sentence: soon they would be pursued and sacrificed, their flesh cooked and devoured by the more intelligent beings who were to be born.

CREATION OF MEN

The gods wanted to create new beings capable of speaking and of harvesting what the earth could offer them. But these new creatures should be able to pay homage to their creators.

This is how they formed the body of the first man out of mud. They modeled it meticulously, not forgetting any detail. Unfortunately, the result was deplorable: toothless, empty-eyed, without any grace, these dolls could not stand upright and disintegrated under water. However, the new being had the gift of speech, a harmonious voice, never heard in this world. But he was unaware of what he was saying.

Despite everything, the gods decided that these fragile beings would live. They should strive to survive, multiply and improve their species, while waiting for superior beings to replace them.
The new creatures were made of wood so that they could walk straight on the earth. They united among themselves and had children. But these beings had no feelings. They could not understand that they owed their presence on earth by the will of the gods alone.

They wandered around without knowing where they were going, like living dead. When they spoke there was no emotion in their voice.

They lived for several years until the gods decided to condemn them to death: a rain of ashes fell on these imperfect beings. Then the water flowed so much that it reached the tops of the highest mountains. Everything was destroyed.

The gods then created two new beings. But they did not meet their expectations either. The Xecot Covah bird gutted their eyes, while the feline Cotzbalam gutted them. The survivors faced accusations from all beings and objects believed to be soulless; the grinding stones, the pots, the jugs, the dogs, all complained of the mistreatment they had received and now threatened the men.
They got scared, fled, climbed onto the collapsing roofs. So they took refuge in the trees. But the branches broke. They tried to find refuge in the caves; but the walls collapsed.

The few survivors turned into apes. This is why the monkeys are the only animals that evoke the form of the first human beings of the Quiché land.
So the gods came together once again to create a new being made of flesh and bones, and endowed with intelligence. This time they used corn; they modeled their body with this yellow and white paste and introduced pieces of wood to make them more rigid.
Quickly, the new human beings showed intelligence: they understood the world around them. These beings were called Balam Quitzé, Balam Acab, Ma Hucutah and Iqui Balam.
Then the gods questioned the first of them:
- Speak on behalf of yourself and others, and tell us how you feel. Are you aware of your powers?

Balam Quitzé answered them:

- You gave us life and thanks to that we know what we know, we are what we are; we talk, we walk and understand what surrounds us. We already know where the four corners of the world lie, which mark the limits of everything around us.
But the gods didn't appreciate new beings knowing so much. They had to know only part of the world around them. Only a part of what exists would be revealed to them and they should not understand everything. It was necessary to limit the field of their knowledge in order to reduce their pride. Otherwise their children will perceive the realities of the world even better until they know as much as the gods, and believe themselves to be gods themselves.
This danger had to be remedied, which would be fatal for the fruitful order of creation. So the gods limited the field of their knowledge.

So that these beings were not alone, the gods created women. They put the men to sleep and placed the women beside them, naked and peaceful.

When they woke up, they saw them with joy, they were so beautiful. To distinguish them, they gave them names that evoked rain according to the seasons.

Couples were formed and they had children who were beginning to populate the earth. Some of them were better than others. For this reason the gods chose them to become Worshipers and Priests, priests with very high offices.

The first begotten beings were as beautiful as their mother, as powerful as their father, and knew the mystery of their origins.
This is how Balam Quitzé and the other elders were the progenitors of the human beings who lived, developed and formed the tribes of Quiché. These first men spread over the earth, in the region of the Orient.

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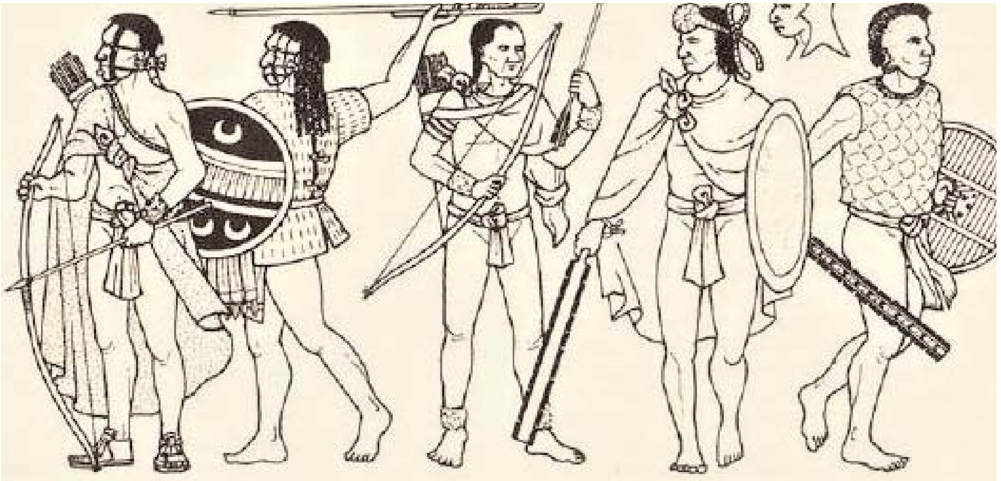
57b



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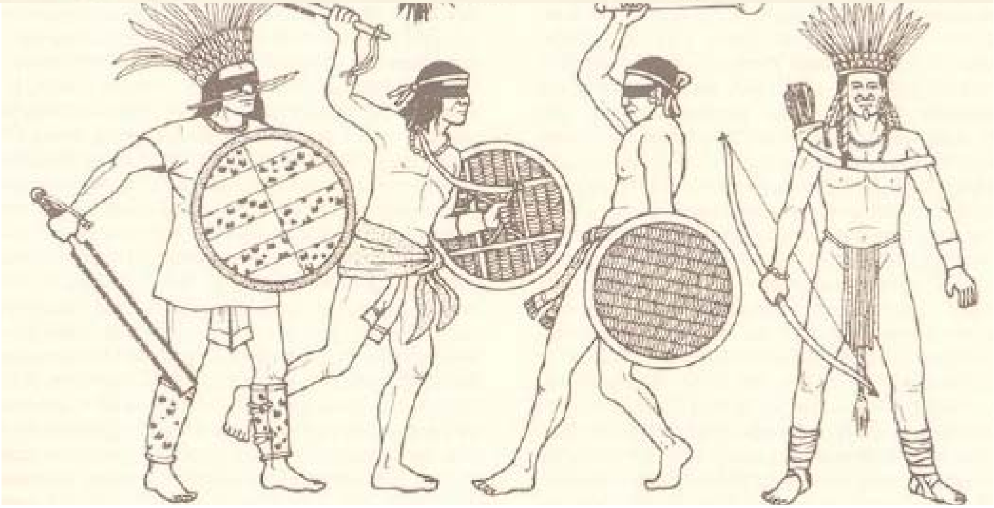
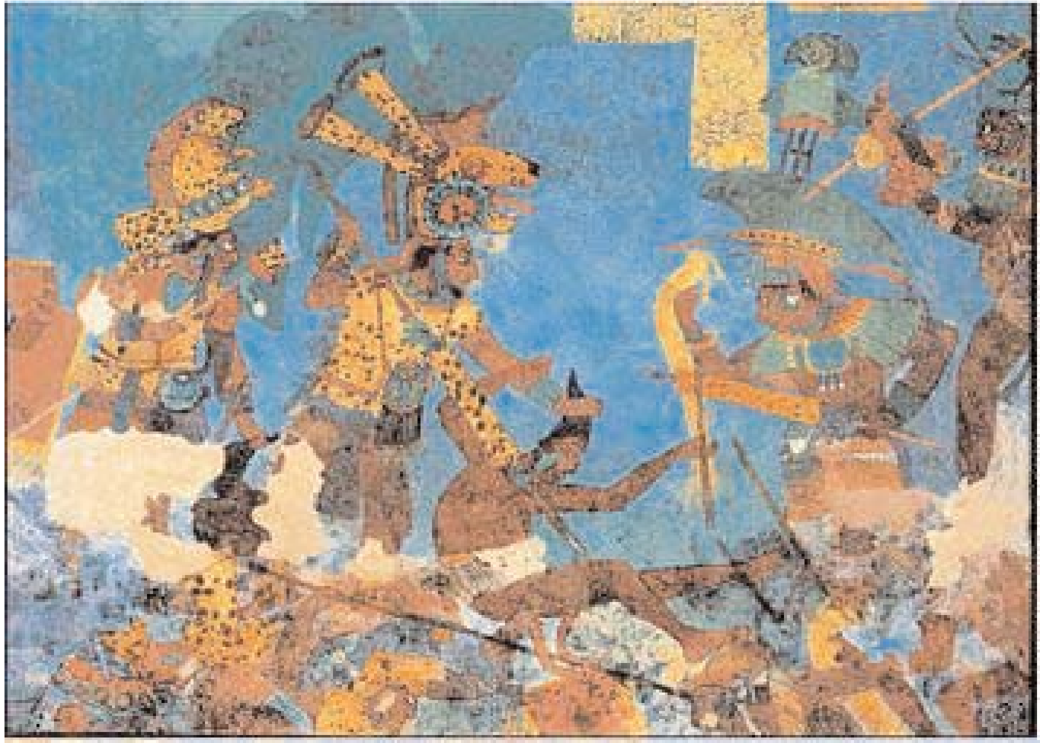
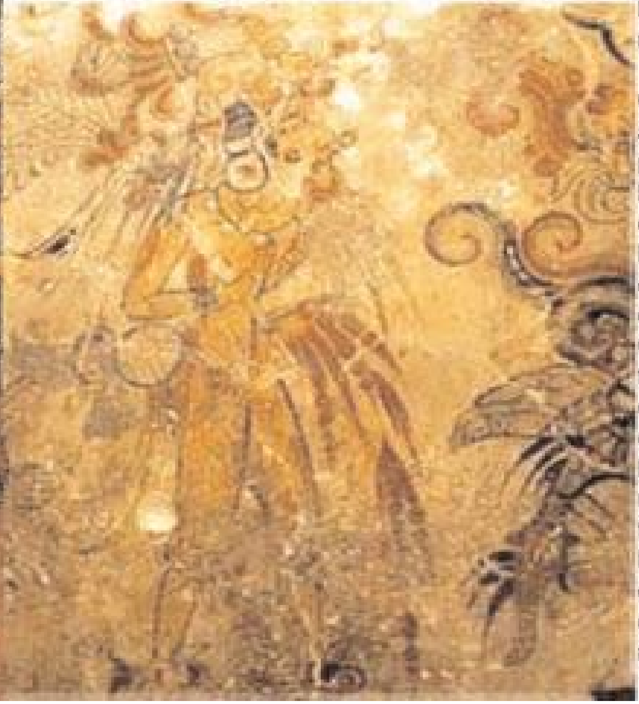




Les fresques de Bonampak datent de 790 et représentent une procession de prêtres et de nobles, un orchestre avec des trompettes et des tambours, des dignitaires discutant entre eux, des prisonniers torturés et prêts à être sacrifiés, des danseurs portants des masques à l'éfigie des dieux, et des membres de la famille royale se transperçant la langue avec des épines de cactus pour verser leur sang. Dans la langue des Mayas, Bonampak veut dire "murs peints", en raison des magnifiques fresques qui ont été découvertes à l'intérieur des temples de cette cité qui fut édifiée entre 580 et 800. Miraculeusement conservées les peintures de ce site, couvrant les murs et les voûtes, rassemblent quelques 300 personnages. Ces fresques nous renseignent sur des éléments qu'on ne peut aborder par l'archéologie : la musique, la danse, les rituels, la pratique de la guerre ou la succession dynastique. L'épisode le plus important est sans conteste placé dans la chambre centrale du complexe religieux : c'est la victoire du roi sur la cité ennemie. Les vaincus sont représentés dénudés, suppliant et montrant leurs mains mutilées. Leurs doigts ont été coupés ou leurs ongles arrachés. Ils seront sacrifiés. La guerre, qui sert à la fois à s'imposer sur la scène politique et à ramener des sacrifiés, est un facteur essentiel de l'émergence de la civilisation maya comme de son déclin. C'est en 1946 que Bonampak fut découvert par Giles Healy et Carlos Frey en suivant les indications des Indiens Lacandons José Pepe Chambor et Acasio Chan.

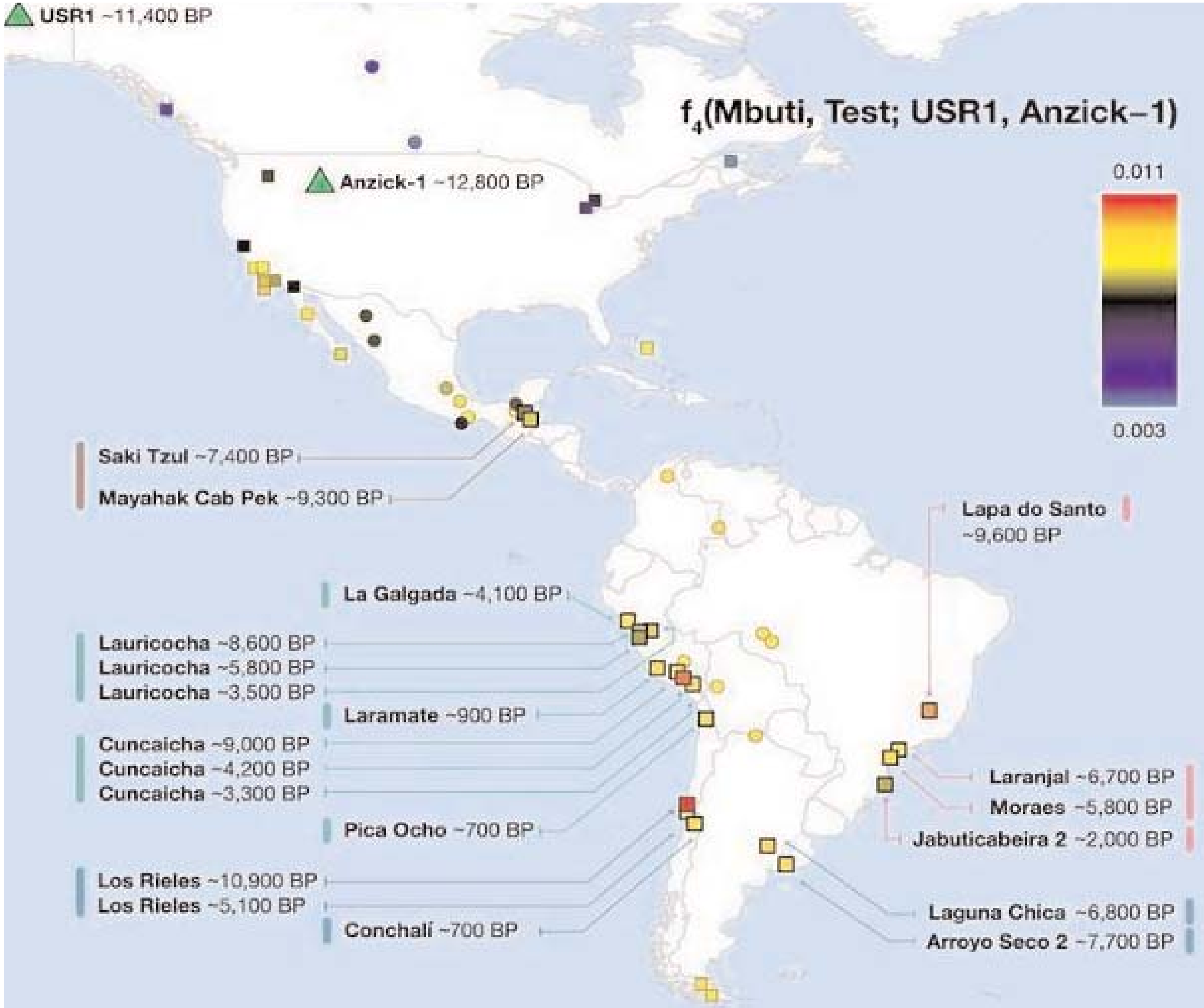


La plus vieille fresque maya

Ce mur peint date de 100 avant notre ère. Cette peinture murale décrit les mythes fondateurs de la civilisation Maya. La première partie de cette paroi représente la cosmogonie des Mayas. Ce récit de la création fait intervenir plusieurs divinités, incarnant le ciel, la terre, les eaux et le paradis. Au centre figure le couronnement du fils du dieu maïs. Sur l'autre partie de la paroi est représenté le couronnement d'un roi maya.

Genomic history of Central and South America

Previous genetic studies have shown that the vast majority of Native Americans outside of the Arctic zone are derived from a single ancestral population. This ancestral population is believed to have split into two branches between 17,500 and 14,600 years ago: the Amerindians of the South and the Amerindians of the North. An ancient individual from the Anzick archaeological site in Montana dated to around 12,800 years ago and associated with the Clovis culture belongs to the South Native American branch. The North Native American branch is strongly represented in Northeastern America, and among ancient individuals from Southwestern Ontario to Canada. On the other hand, some current Amazonian groups such as the Surui have Autralésian ancestry. Geneticists have sequenced the genome of 49 individuals from four different regions: Belize, Brazil, Peru and the South American cone (Chile and Argentina). In each of these regions the oldest individual is older than 9000 years:



The oldest individuals in this study do not share any more alleles with current Native American populations in the same region than with those from different regions. However, there is strong genetic continuity between ancient individuals less than 5,800 years old and current populations in the same region.

In Peru, the oldest individuals from Cuncaicha and Lauricocha share more alleles with current Native American groups from the central Andes.

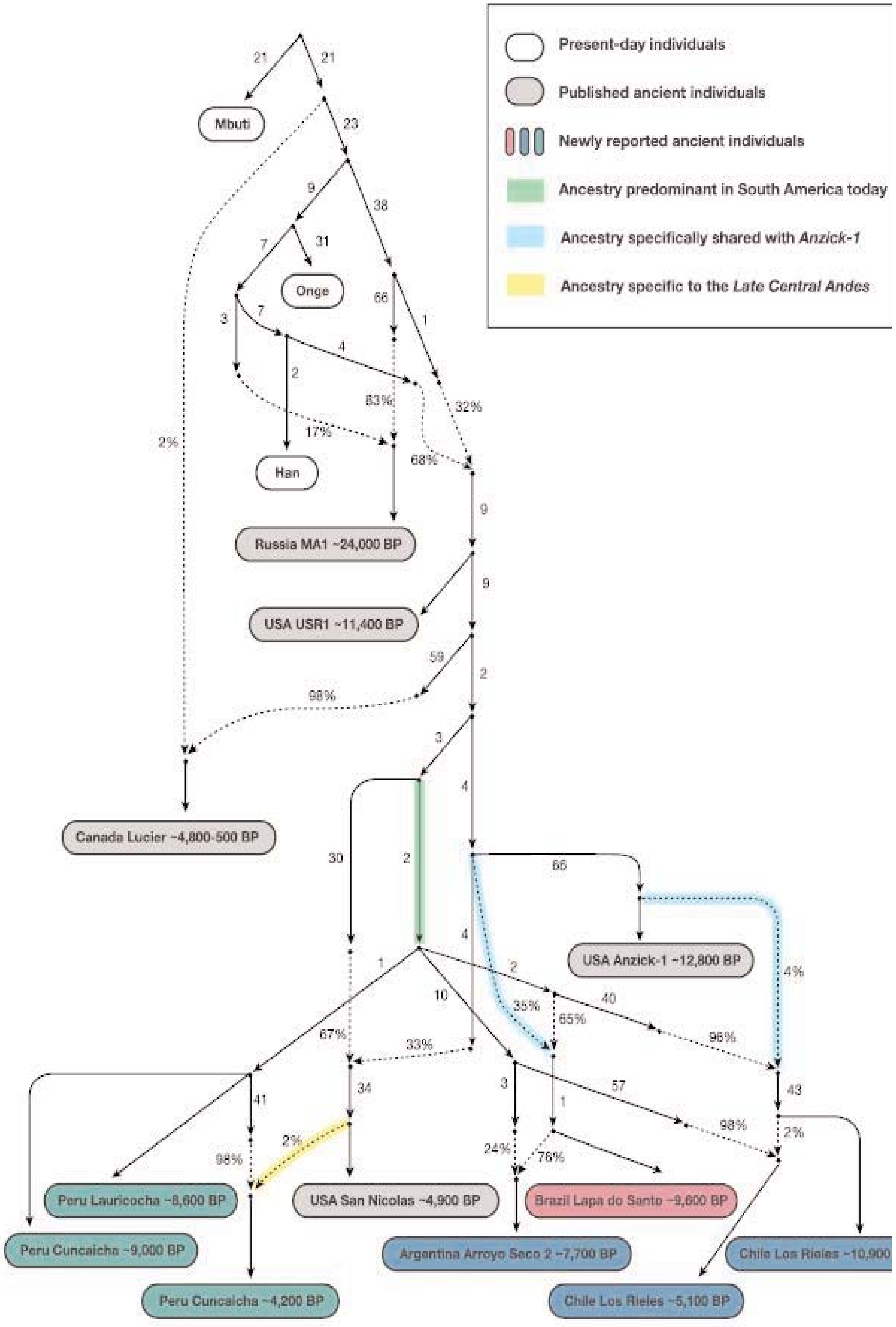
The 8,600-year-old Arroyo Seco 2 and Laguna Chica ancient individuals have a strong genetic affinity with current Native American groups in the South American cone.

In Brazil, genetic continuity with current groups begins with the 5800-year-old ancient Moraes individual. There is also a strong genetic continuity between the 2000 year old Jabuticabeira 2 individuals of the Sambaqui culture, and the current groups from southern Brazil.

These ancient individuals share more alleles with current Native American groups speaking a Gê language than those speaking a Tupi-Guarani language. This result supports the theory that links the Sambaqui culture and speakers of the Proto-Gê language who are believed to have lived around 2000 years ago. This also implies a replacement of population on the Brazilian coast: speakers of the Gê language replaced by speakers of the Tupi-Guarani language.

The figure above also shows the genetic affinity of the different ancient skeletons with Anzick-1 from the Clovis culture. Thus all the former individuals of South and Central America as well as the Californians are close to Anzick-1, unlike the former North Americans. However, some are closer to Anzick-1 than others, for example the Los Rieles specimen from Chile 10,900 years old, the Lapa do Santo specimen from Brazil 9,600 years old, and several specimens from Peru dating back to 4200 years. years or less. These results are indicated by the f4 statistic and confirmed by the qpWave software. The latter further indicates that most ancient South Amerindians came from three different ancestral sources including Anzick-1 and the ancient Californians of the coast. If, in addition, we integrate the Surui of the Amazon, we add a fourth ancestral source of Australian origin.

The authors then use the qpGraph software to build demographic models. They were thus able to link nine different populations of North, Central and South America from a single source population without significant genetic mixing between the North and South Amerindian branches. This result goes against the conclusions of Scheib's paper which assumed significant genetic mixtures between the South and North Amerindian branches. However if the authors include the former individual of Anzick-1 in the graph, they must also include genetic mixing events:


Present-day individuals
Published ancient individuals
Newly reported ancient individuals
Ancestry predominant in South America today
Ancestry specifically shared with *Anzick-1*
Ancestry specific to the *Late Central Andes*
Mbuti
Onge
Han
Russia MA1 ~24,000 BP
USA USR1 ~11,400 BP
Canada Lucier ~4,800-500 BP
USA Anzick-1 ~12,800 BP
Peru Lauricocha ~8,600 BP
USA San Nicolas ~4,900 BP
Brazil Lapa do Santo ~9,600 BP
Peru Cuncaicha ~9,000 BP
Argentina Arroyo Seco 2 ~7,700 BP
Chile Los Rieles ~10,900
Peru Cuncaicha ~4,200 BP
Chile Los Rieles ~5,100 BP
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65%
4%
96%
67%
33%
34
3
57
43
41
1
2%
98%
24%
76%
98%
2%

This result indicates at least 4 genetic mixing events between South America and regions outside South America: a first source at the origin of all South Amerindian populations (in green above), a lineage close to Anzick-1 in the former 10,900 year old individual of Los Rieles from Chile, in the 9,600 year old former individual of Lapa Do Santo from Brazil or the former individual of Arroyo Seco 2 from Argentina. 7,700 years old (in light blue), a South Amerindian ancestry from the Californian coast (USA San Nicolas) in ancient individuals from Peru (in yellow). The last event is represented by the Australian ancestry among the Surui of the Amazon which are not represented in the graph above.

There is almost no genetic mix between the South and North Amerindian branches. The only signal highlighted is that detected in ancient Peruvians more recent than 4200 years old, but it remains below 2%.

There is very little genetic drift in the different lineages leading to the ancient groups of South America, which implies a rapid spread of the initial migration to the different regions of South America.

There is a common ancestry between the former Anzick-1 individual of the Clovis culture with the first individuals from South or Central America, which implies that a group associated with the Clovis culture was associated with this first population that arrived in America. of the South, although most of this first population came from a population different from the Clovis culture. This result can be explained by a first migration in South America of a population associated with the Clovis culture, followed around 9600 years by a second migration which replaced a good part of the South American population. These results are notably correlated with archaeological evidence in Brazil. However it could be the reverse, a first migration by a population prior to the Clovis culture, linked for example to the archaeological site of Monte Verde in Chile 14,500 years old, replaced by a second migration linked to the Clovis culture.

The authors did not detect the Australian signal present in the current Surui population, in all of the former individuals analyzed in this study.

Finally, the data from this study show that the EDAR gene linked to the shape of teeth and the texture of frizzy and thick hair, present in all current Amerindians and East Asians, was not present in all ancient individuals in America. like USR1, Anzick-1, Lapa Do Santo and Laranjal from Brazil. Thus it is probable that this gene has established itself among Amerindians and East Asians independently in parallel.

Genome of an ancient Caribbean

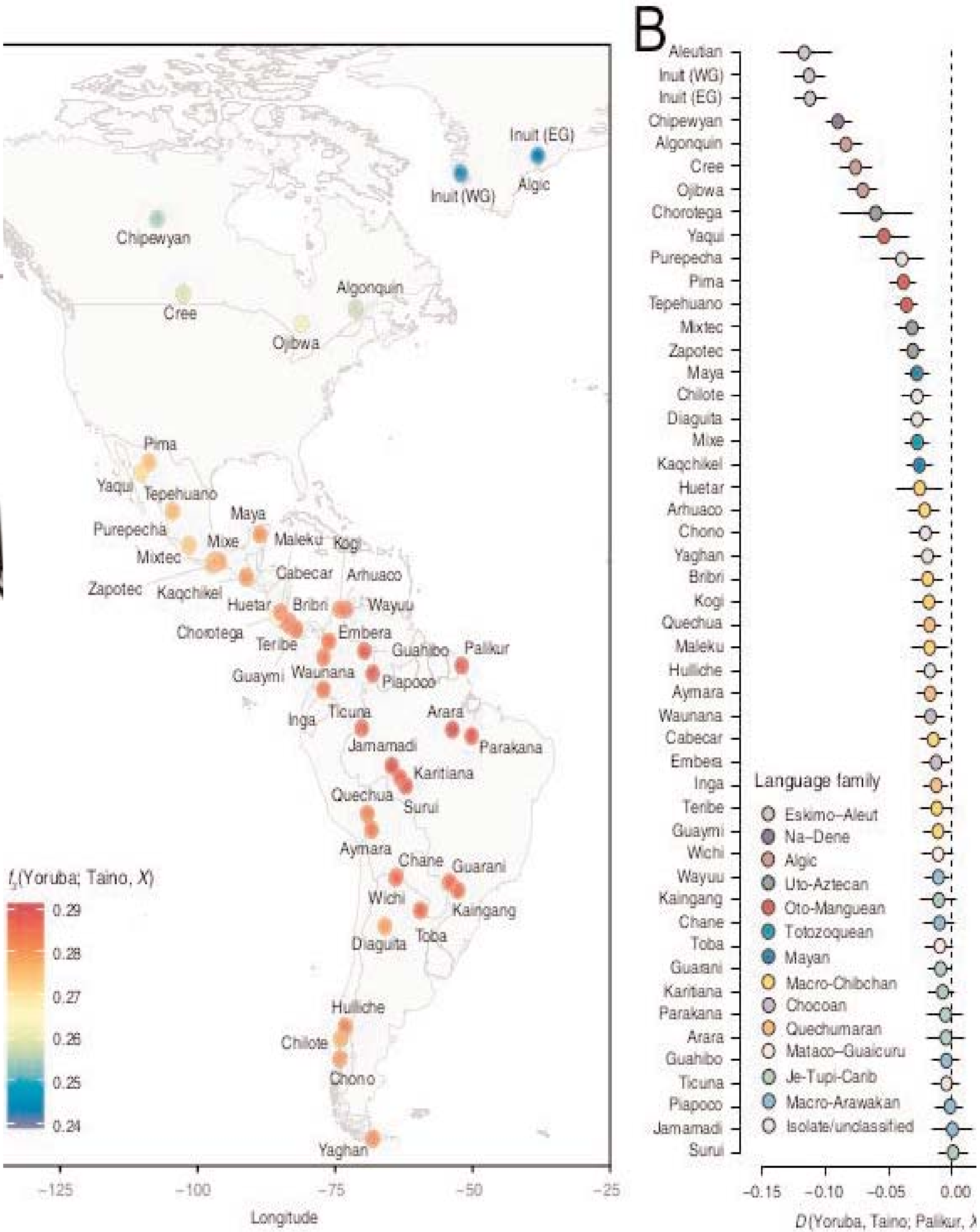
When Christopher Columbus set foot in the Americas, the Taino people were the dominant group in the West Indies and Bahamas. It is assumed that their ancestors are Arawak Native Americans who entered the Caribbean from South America around 2,500 years ago. The Bahamas were not populated until about 1,000 years later by a culture whose archaeological and linguistic evidence also suggests strong ties to South America.

Hannes Schroeder and his colleagues have just published a paper entitled: Origins and genetic legacies of the Caribbean Taino. They sequenced the genome of an individual who lived in the Bahamas more than 500 years before the Spaniards arrived in the region. The remains of this individual were found in the Preacher's Cave on Eleuthera Island.

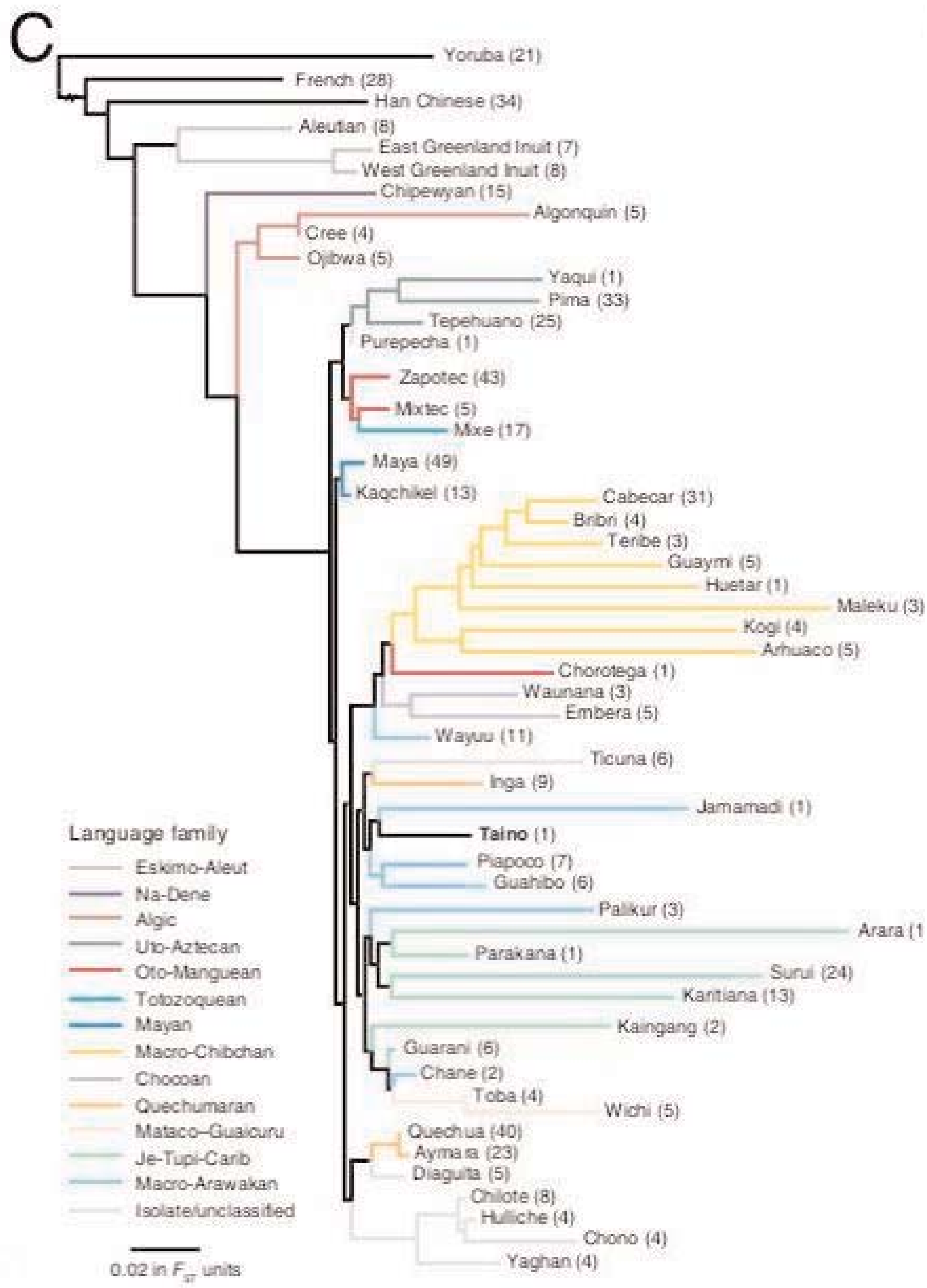
The tooth from which the authors extracted the genome was directly dated between the years 776 and 992. Isotope analyzes have shown that the individual probably grew up there.

The authors showed that the individual was a woman whose mitochondrial haplogroup is B2. The authors did not find a contemporary individual who had the same mitochondrial sequence.

The authors then used the f3 statistic to find the Native American population that was genetically closest to ancient Taino. The results showed that the Palikur of South America and other Arawak peoples have the most genetic affinity. These results were confirmed by the D statistic:



The authors then built a tree that shows the proximity of the Taino genome to the Arawak peoples:



Analyzes with the ADMIXTURE software also confirm this result.

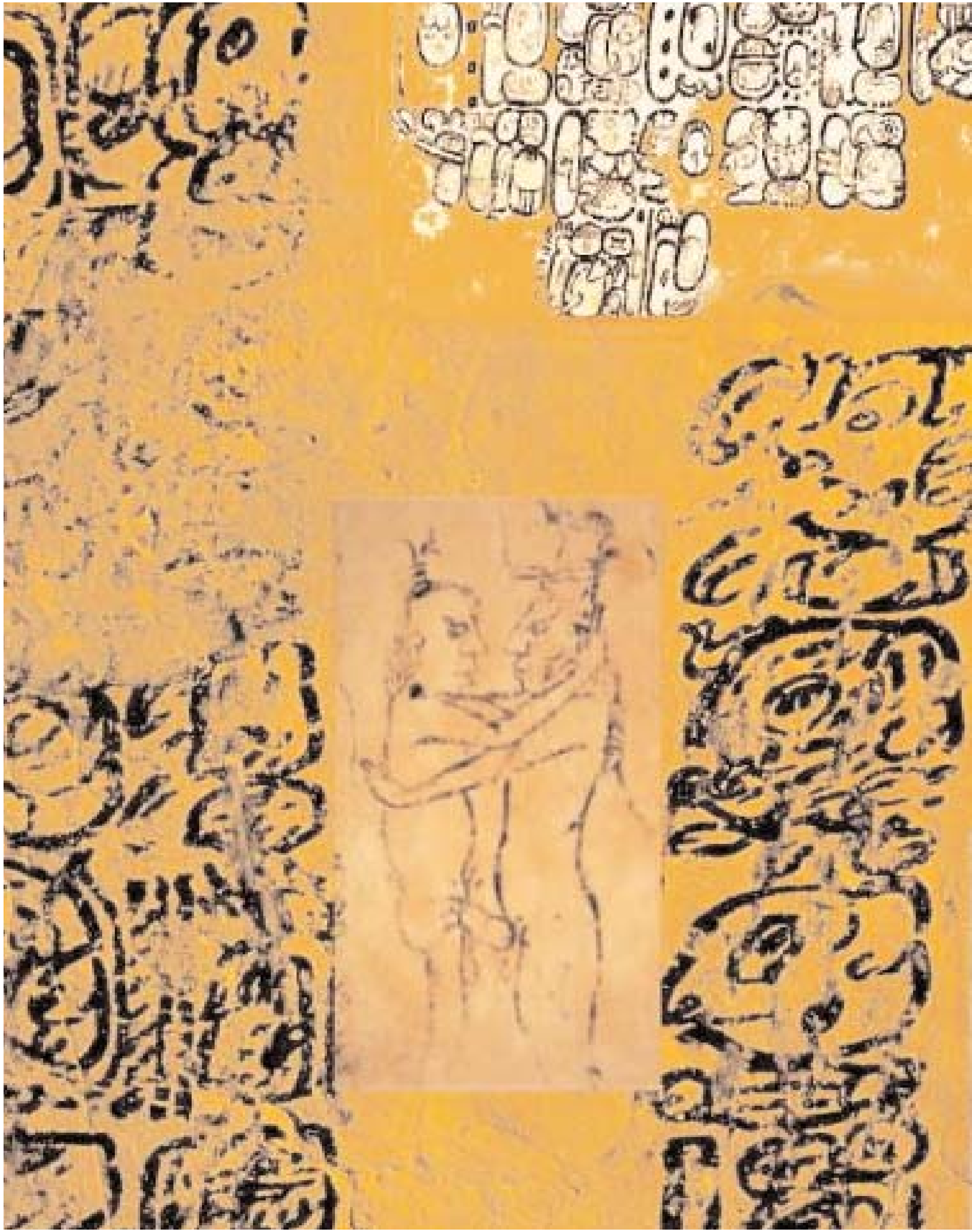
The authors then showed that the ancient Taino had no genetic affinity with the Australian, Melanesian or Adaman Islands populations unlike certain Amazonian populations such as the Surui. This result suggests that either this signal was lost among the Taino or it entered the Amazonian populations after their divergence from the Tainos about 3000 years ago.

The authors measured the homozygous segments in ancient Taino to study the past demography of his people. Its excess of short segments indicates that the population has suffered one or more genetic bottlenecks. It also has very few long segments indicating a relatively large and uninsulated population. Considering the small size of Eleuthera Island, this suggests the existence of an important communication network connecting the different islands of the Bahamas before the arrival of the Spaniards.

Finally, the authors compared the genome of current Puerto Ricans with the old Taino genome. For this they masked the European and African mutations in the Puerto Rican genomes. Analysis with ADMIXTURE software shows that there are strong similarities between contemporary Puerto Rican genomes, Arawaks and the ancient Taino genome. The f3 statistic further shows that ancient Taino has more genetic affinity with Puerto Ricans than with any other Native American population. These results are confirmed by the D statistic.

The best demographic model obtained by the authors is as follows:

There has therefore been a certain genetic continuity in the region for more than 1000 years.



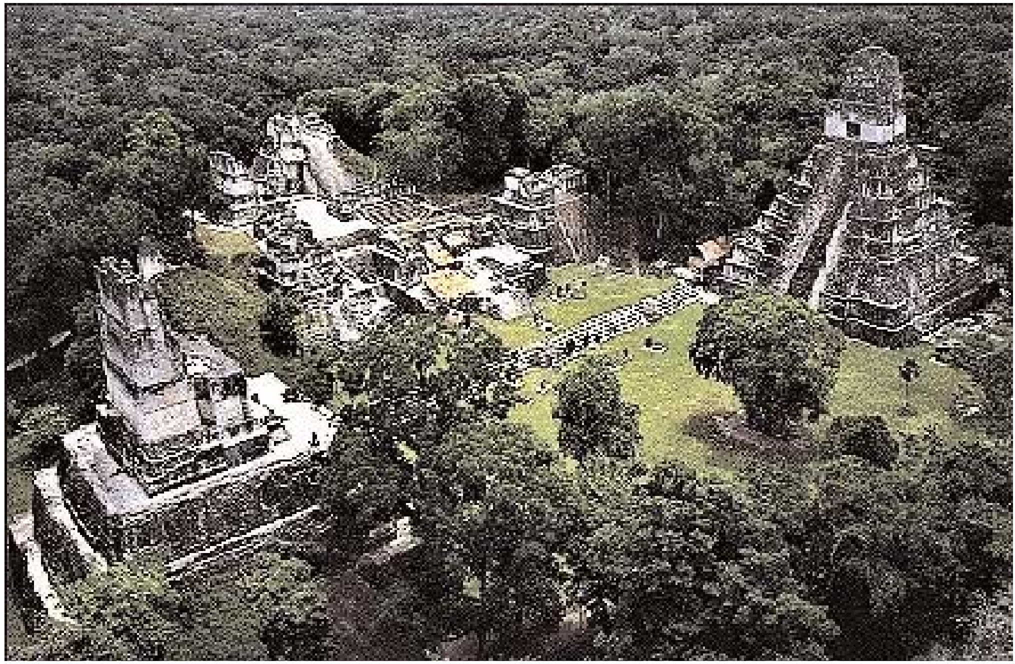
" Naj Tunich " signifie " maison de pierre " en maya mopan. Au cours des périodes préclassique et classique, la grotte fut un important lieu de pèlerinage pour les Mayas. Les Mayas considéraient les grottes comme des accès à l'Inframonde ou Xibalba. Naj Tunich fut le théâtre de nombreuses activités rituelles, qu'il s'agisse de saignées rituelles ou de sacrifices d'enfants.

On y a découvert un grand nombre de peintures, de dessins, (18 dessins représentant une relation sexuelle), d'inscriptions, d'empreintes de mains, d'artefacts et de constructions maçonnées. Certaines inscriptions commémorent la visite de personnages importants dans la grotte, sans doute des souverains comme l'indique la présence du glyphe-emblème assez rare d'Ixtutz, un site à 35 km au Nord-Ouest de Naj Tunich ou encore une inscription mentionnant la visite de Tum Yohl K'inich, sans doute un souverain de Caracol. Sa découverte a joué un rôle pionnier dans le domaine de l'archéologie des grottes dans la civilisation maya.

TIKAL - CITY STATE MAYA

The Mayan cities formed, with their agricultural hinterland, administrative and ritual centers. The great Mayan cities were very populous. Perhaps the most impressive of the Mayan sites is Tikal, Guatemala. In the very center of Tikal, for example, stood 15.6 square kilometers, some 10,000 buildings, ranging from pyramid-temples to thatched-roof huts. The population of Tikal is estimated at over 60,000 inhabitants, a density much higher than that of an average city in Europe or America at the same time.

A Mayan city in the Classical period usually consisted of a series of layered platforms topped with masonry structures that could be large pyramid temples and palaces as well as simple detached houses. Around these structures were arranged vast courtyards or esplanades. Mayan architecture was characterized by the abundance of low relief carvings and wall paintings adorning the buildings, which denoted a strong sense of art and decoration. In large cities like Tikal, roads or stone paths sometimes linked imposing buildings and large groups to each other.



In these photographs, we see the buildings that surround the Grand Place: the temple of the giant Jaguar (on the right, circa 700 AD), the temple of the Masks (circa 699 AD) and the North Acropolis. The grave of a high priest, buried with hundreds of offerings, in this case vases, jade, etc., lies at the heart of the temple of the giant Jaguar. The place of worship at the top of the building is at the top of a pyramid with nine levels.

The cities, rarely arranged in the form of quadrilaterals, seem to have developed without a preconceived plan, the temples and palaces having been destroyed and rebuilt many times over the centuries.

The apparently arbitrary arrangement of the Mayan cities complicates the drawing of their borders. Some are delimited by ditches while others are sometimes, though rarely, surrounded by fortifications. Walls were not usually built around the sites, with the exception of some recently discovered cities dating from the collapse of the Mayan civilization where they had thus guarded against the invader.

In some areas, groundwater was scarce, so that in large centers such as Tikal, large reservoirs were probably built to serve the population during the dry season. Many sites also had playgrounds. Some were equipped with steam baths, probably of Mexican origin. In front of the great temples and palaces of the important cities, there usually stood, in the stucco of the terraces and esplanades, a multitude of pillars or stelae. These stelae, sometimes placed on platforms, were then used to support the pyramid-temples and it was not uncommon for flat and low altars, of rounded shape, to be placed in front of them.

In 292, Tikal erected the first known dated stele, thus claiming a dominant political power for his dynasty, which would impose its mark on much of the Mayan world. Tikal's role seems to have been reinforced by his ties to the great metropolis of central Mexico, Teotihuacán. The latter city, populated by around 200,000 inhabitants, then exerted its influence over all of Mesoamerica, and we find evidence of it both in the highlands and in the lowlands, in Kaminaljuyú, Becan, Yaxhá or Altun Ha.

But Tikal enjoys privileged relations: some of its leaders are said to be allied with Mexican groups, and the support of the metropolis, which manifests itself in architecture, ceramics and sculpture, is no stranger to Tikal's political game. : alliances (with Uaxactún) or conquests (the dynasty of Río Azul is driven out and replaced).

The Mayans also excel in architecture and art. They build great palaces and tall pyramids from hewn stone. Their artists, often specialized in a craft, produce beautiful murals, masks, stone and woodcarvings, feathered clothing and jewelry decorated with jade, pearls and shells.

Cultural heyday

Towards the middle of the 6th century, however, in Mayan territory there was a slowdown in activities, which resulted in the interruption of the erection of dated monuments. This stop marks the end of the old classic. Soon a revival of architectural and artistic activity took place, accompanied by a strong increase in population: large sites were still developing, others were emerging from their lethargy, like Seibal, and new cities were founded. Around centers where pyramids and sculpted monuments abound are organized city-states which compete in prestige. The Mayan culture reached its peak: it lasted until the tenth century.

Among the constants of the architectural principles are the corbelled vault and the ridge crowning the roof. Unlike European arches, the vault did not have a key, giving it the appearance of more of a narrow triangle than an arch. Although this unusual shape has sometimes been attributed to a lack of knowledge of the techniques required to make keys, some argue that it was a deliberate choice. The vault still had nine strata of stone representing the nine strata of the underground world; the superimposed keystone would have constituted an additional element, foreign to Mayan cosmology.

In each Mayan kingdom, the society was composed, in a hierarchical order, of kings, nobles, masters, scribes, warriors, architects, administrators, artisans, merchants, workers and 'farmers. Besides the capital, there were a number of distant secondary centers, towns of a certain size or simple hamlets and farms inhabited by an extended family.

There are several reasons why the Mayans moved from small farming communities administered by local officials to complex kingdoms in the Classical period. The discovery of ways to collect rainwater and the creation of new arable land for agriculture played a big part in this development. A not insignificant labor force was organized to build and maintain the hydraulic systems (reservoirs, cisterns, canals) and to take care of the corn fields. These innovations have made it possible to increase food production and create a surplus, develop trade with neighboring states, and therefore promote population growth. The fact that a government was needed to administer the increasingly numerous and complex urban and rural activities may be part of the reason why the Mayans endowed themselves with kings.

As towns grew, in part due to the arrival of people from outside the region, they increasingly nibbled away at arable land. Population growth, droughts and poor harvests may have been the cause of severe food shortages and malnutrition. When harvests were bad, people may have been forced to move elsewhere to survive.

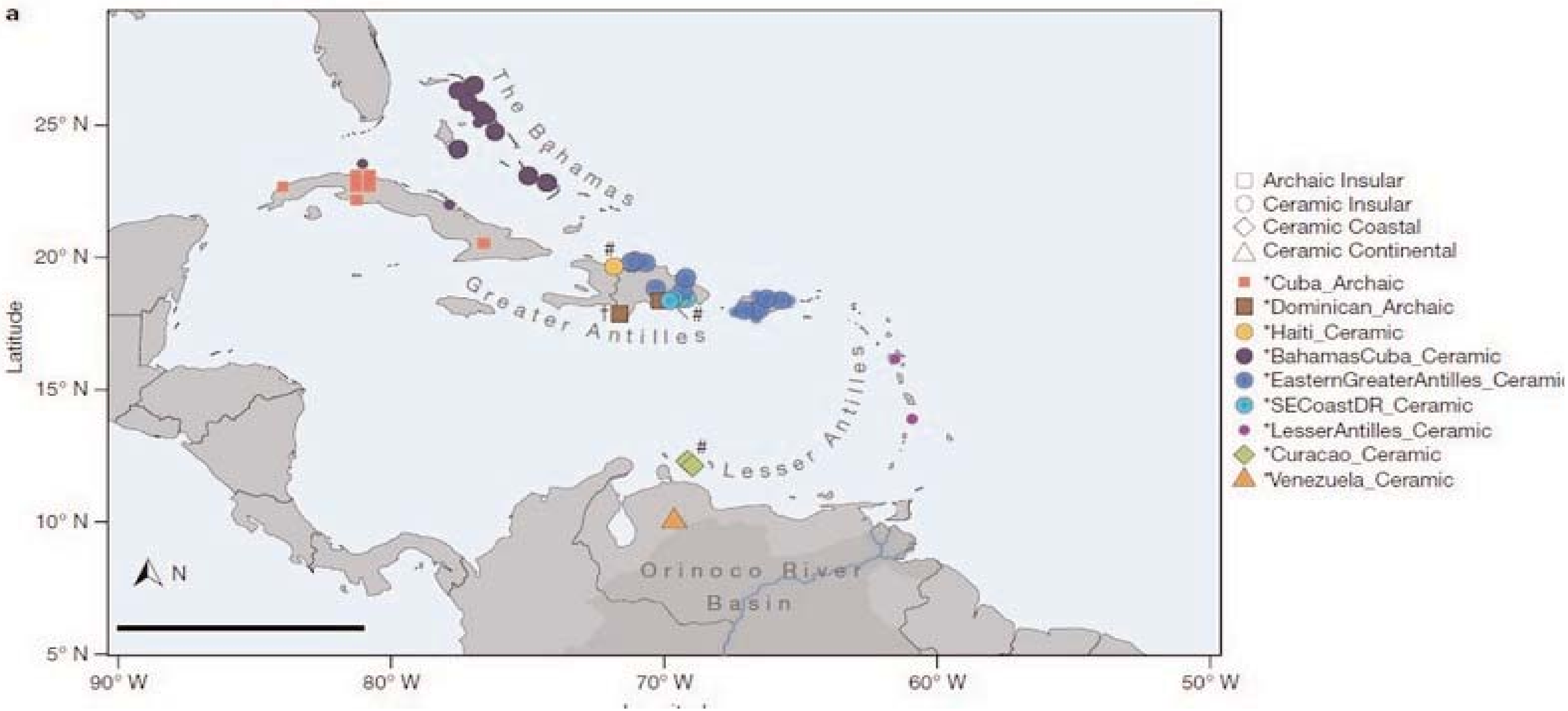
Caribbean genomic history

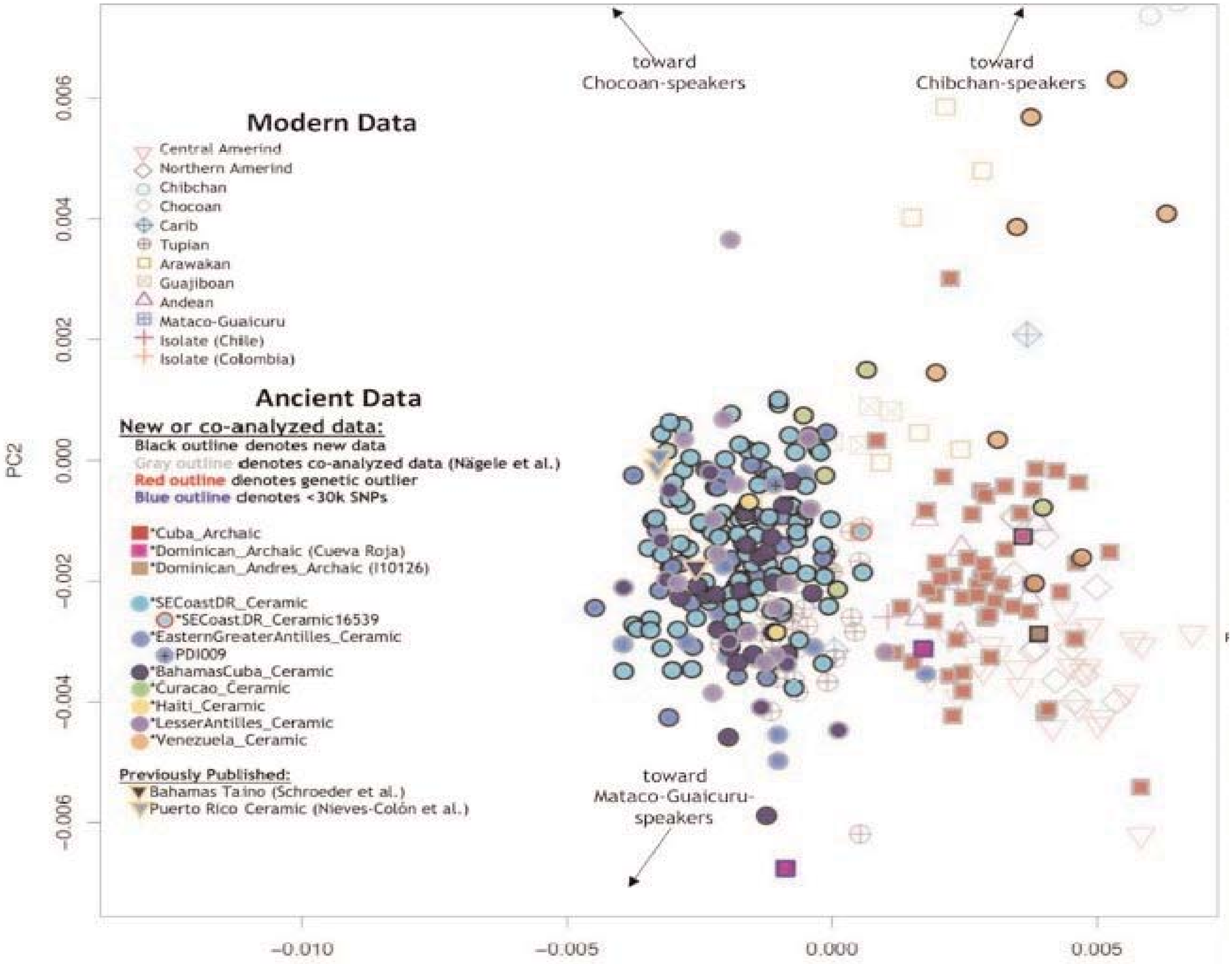
Before the arrival of Europeans, the Caribbean was populated by a mosaic of interconnected archaeological communities, since the first migrants arrived in Cuba, Haiti and Puerto Rico around 6,000 years ago. The first occupations which define the archaic age are characterized by a specific lithic industry. The ceramic age begins around 2,500 to 2,300 years ago, characterized by the contribution of agriculture and ceramics.

Paleo-geneticists have just published a paper entitled: A genetic history of the pre-contact Caribbean. They sequenced the genome of 195 ancient Caribbean individuals dated between 3100 and 400 years old:

These genomes were added to 89 old genomes previously published in a previous study. All of these genomes are separated into two groups according to their dating and their technology: archaic and ceramic.

The authors performed a Principal Component Analysis. The figure below shows that the archaic (square symbols) and ceramic (circular symbols) individuals separate into two distinct groups:



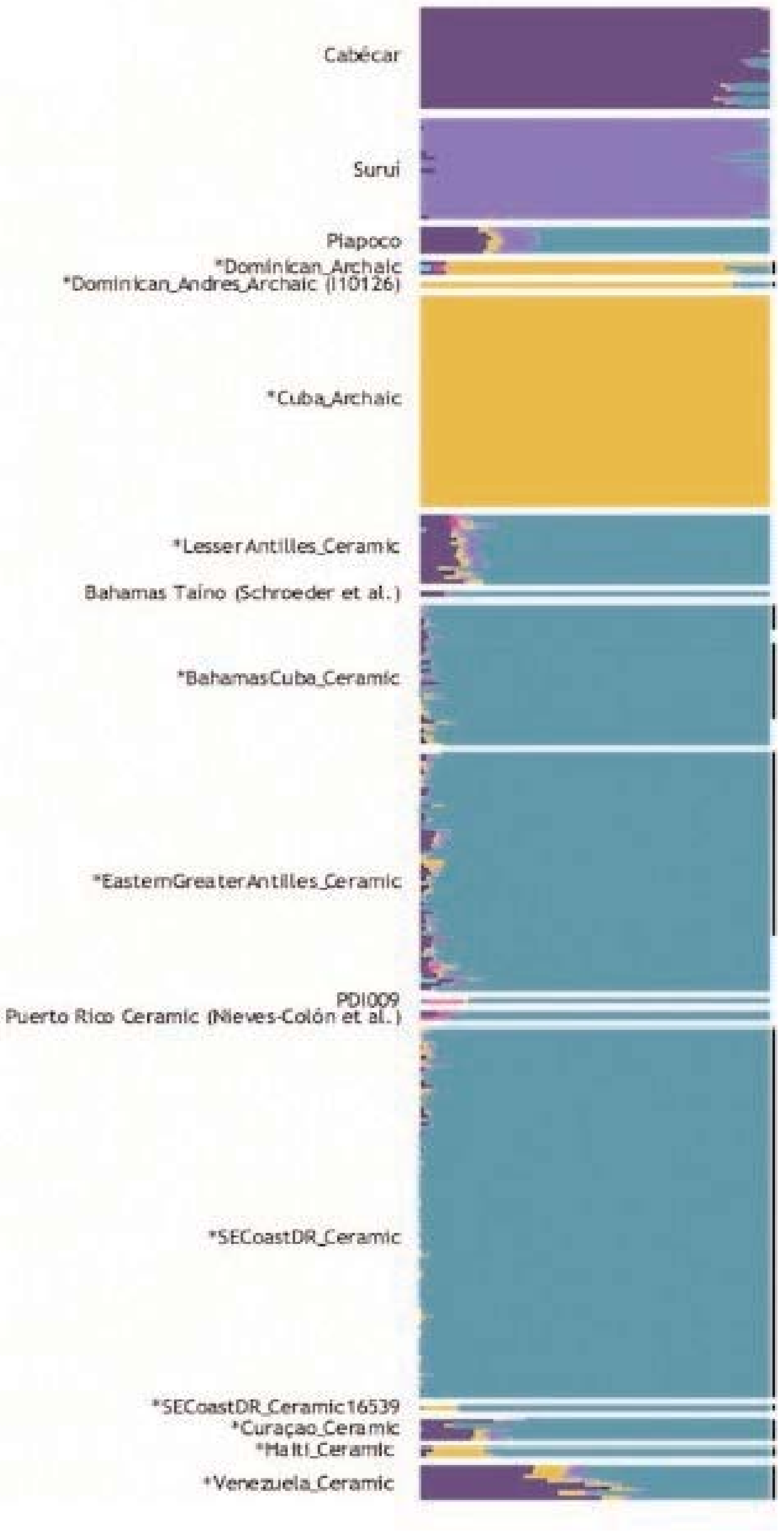

toward
Chocoan-speakers
toward
Chibchan-speakers
Modern Data
Central Amerind
Northern Amerind
Chibchan
Chocoan
Carib
Tupian
Arawakan
Guajiboan
Andean
Mataco-Guaicuru
Isolate (Chile)
Isolate (Colombia)
Ancient Data
New or co-analyzed data:
Black outline denotes new data
Gray outline denotes co-analyzed data (Nägele et al.)
Red outline denotes genetic outlier
Blue outline denotes <30k SNPs
*Cuba_Archaic
*Dominican_Archaic (Cueva Roja)
*Dominican_Andres_Archaic (I10126)
*SECoastDR_Ceramic
*SECoast.DR_Ceramic16539
*EasternGreaterAntilles_Ceramic
PDI009
*BahamasCuba_Ceramic
*Curacao_Ceramic
*Haiti_Ceramic
*LesserAntilles_Ceramic
*Venezuela_Ceramic
Previously Published:
Bahamas Taino (Schroeder et al.)
Puerto Rico Ceramic (Nieves-Colón et al.)
toward
Mataco-Guaicuru-
speakers
PC2
0.006
0.004
0.002
0.000
-0.002
-0.004
-0.006
-0.010
-0.005
0.000
0.005

The ceramic individuals from Venezuela (circular pink symbols) stand apart from these two groups and are more scattered at the top right of the figure above. The strong homogeneity of ceramic individuals whatever their location indicates a high rate of migration between the islands at this time. A few individuals show a genetic mix between archaic and ceramic ancestry.

The ancient archaic individuals share the most alleles with the present populations of Central America and northern South America belonging to several linguistic families: arawak, caribes, chibchanes, chocó, guahibanes, Mataco-Guaicuru and tupi. There is no genetic affinity with populations of North America contrary to what was indicated in a previous study. All the results suggest that the ancient ceramic individuals are from a single source.

The arrival of the ceramic groups replaced a good part of the populations in all the Caribbean except western Cuba where an archaic ancestry persisted for at least 2,500 years. At the time of the arrival of the first Europeans, this region was characterized by a culture and language different from other parts of the Caribbean. Analysis with ADMIXTURE software shows that ancient ceramic individuals have a genetic affinity with current Arawak-speaking populations. Indeed, the figure below shows that these ancient ceramic individuals consist mainly of a blue-green component which is predominant among the Piapoco, a current Arawak-speaking population.

However, the f4 statistic does not confirm this result because it does not show more genetic affinity between the ancient ceramics and the current populations of the Arawak language compared to the current populations of another linguistic family.

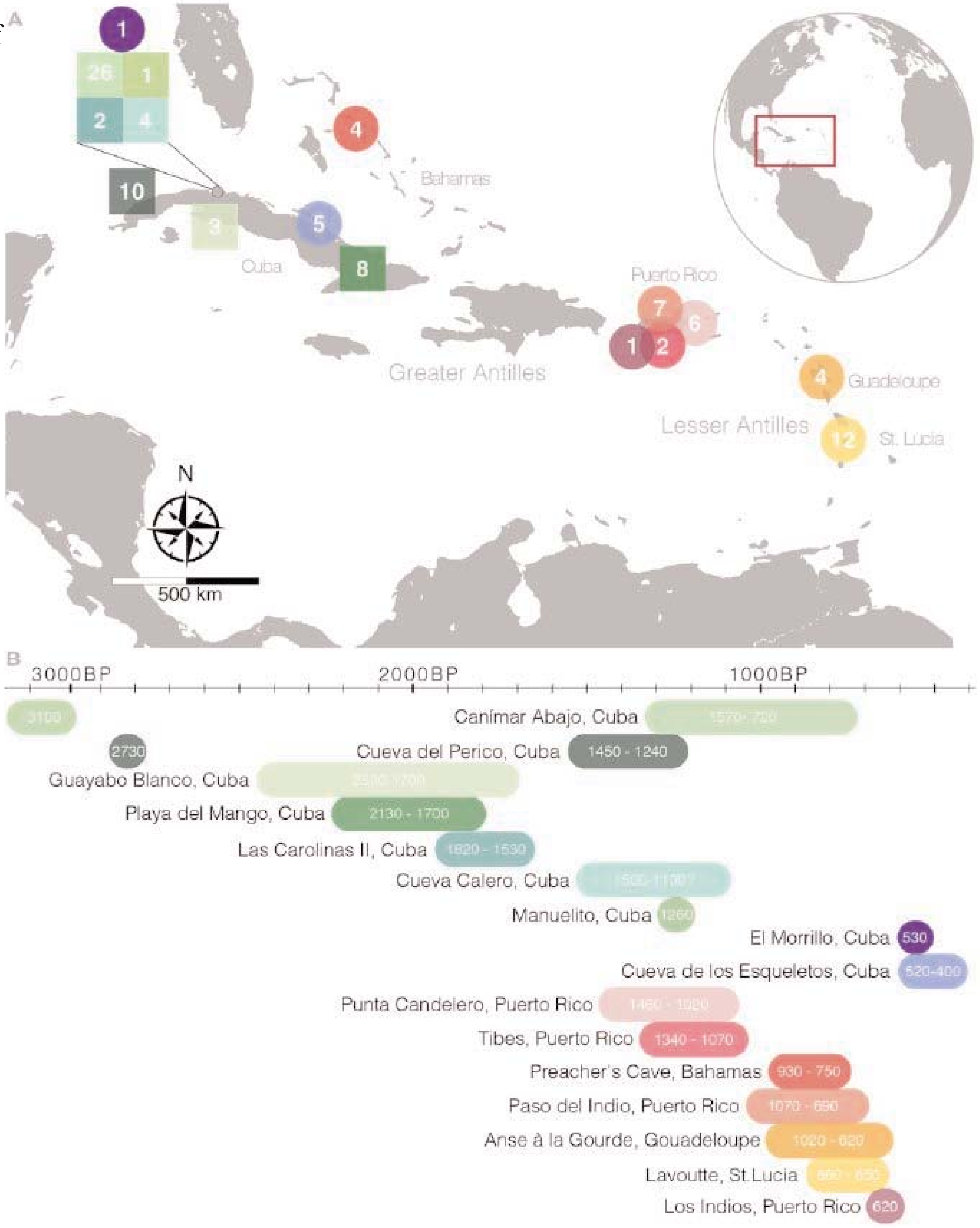


The analysis with the ADMIXTURE software above shows that the ancient ceramic individuals of Venezuela have a high proportion of ancestry (dark blue) that is found in the Cabécar of the Chibchane language. The ancient ceramic individuals of Curaçao can be modeled as resulting from a genetic mixture between the ancient ceramic individuals of the Lesser Antilles (74.5%) and the ancient ceramic individuals of Venezuela (25.5%). Finally, the authors have not demonstrated the arrival of a new gene flow around 1150 years ago as suggested by previous craniometric studies.

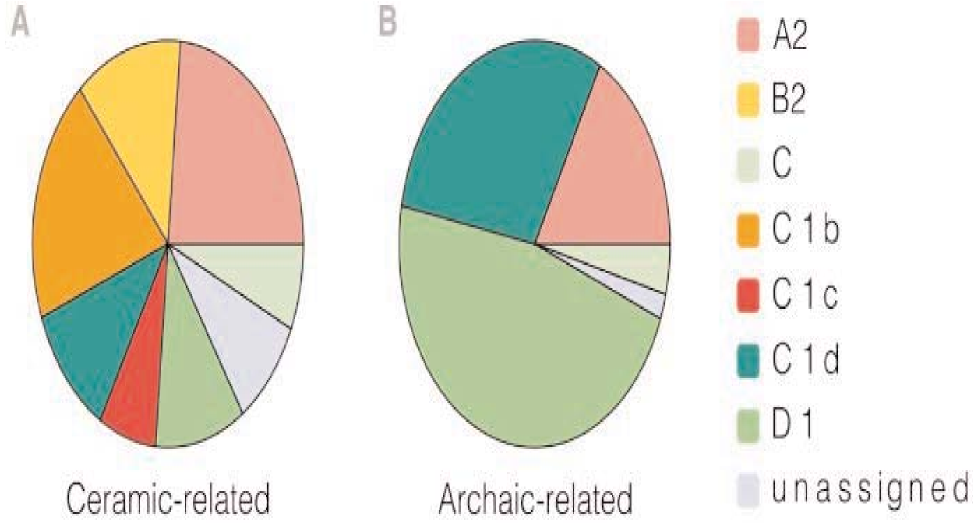
Analysis of the length of the homozygosity segments shows that there was second or third degree inbreeding among these ancient populations, thus suggesting a small population size. The effective size of the population is thus estimated between 200 and 300 for archaic individuals and between 500 and 3000 for ceramic individuals. The actual size of the population had to be between 3 and 10 times greater than the estimated effective size of the population.

New studies

Archaeological evidence shows that the first inhabitants of the Caribbean arrived around 8,000 years ago in Trinidad, then around 5,000 years ago in the other islands. Then, around 2,800 years ago, a second wave of colonization swept through the Caribbean bringing a new style of pottery, permanent settlements and agriculture. These new arrivals come from South America.

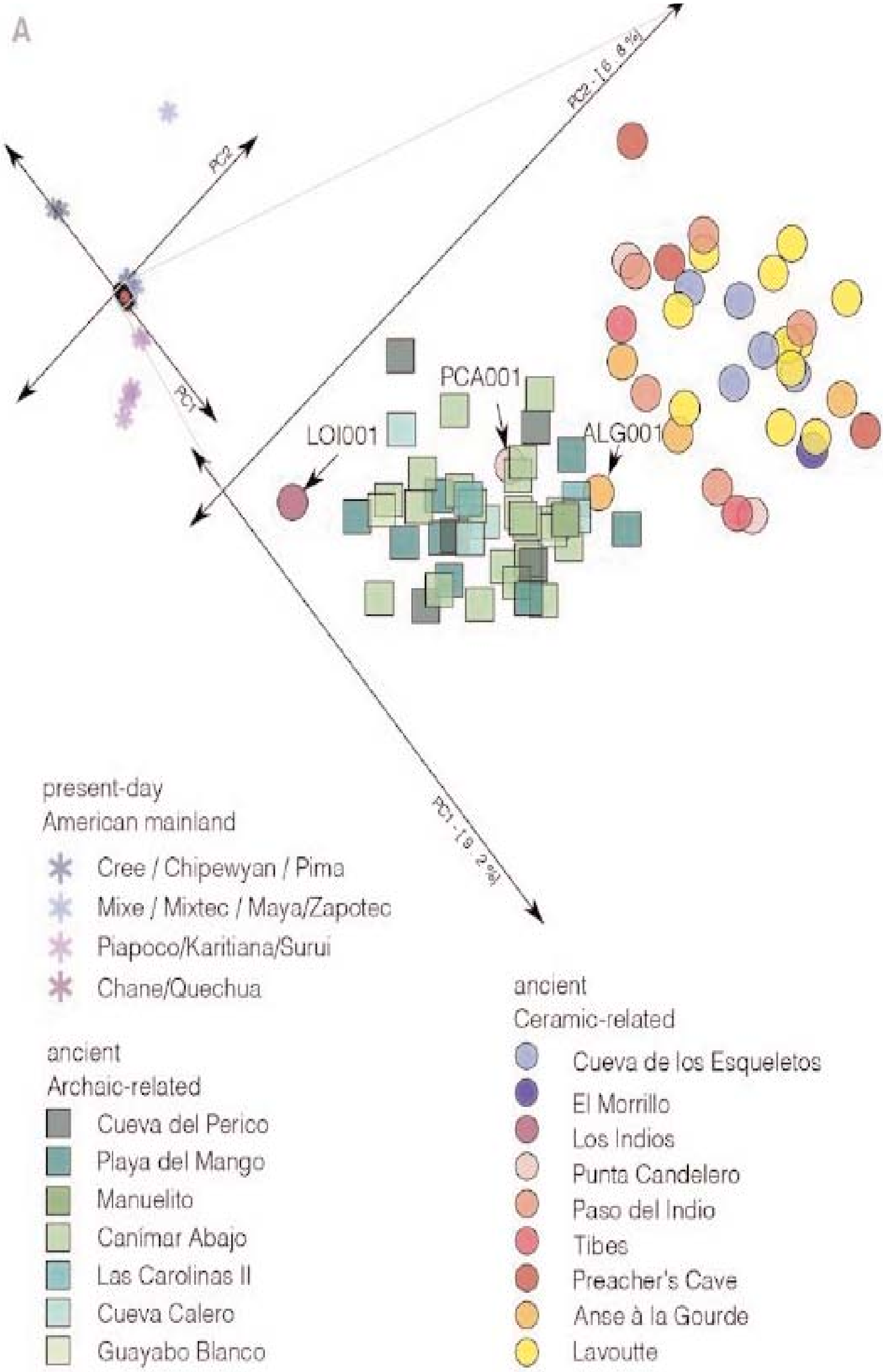


The paleo-geneticians have just published a new paper entitled: Genomic insights into the early peopling of the Caribbean. They sequenced the genome of 93 skeletons from 16 archaeological sites in the Caribbean dated between 3200 and 400 years old. These individuals come from two different archaeological contexts baptized archaic (square symbols) and ceramic (round symbols):



The archaic individuals come from seven archaeological sites in Cuba dated between 3200 and 700 years old, while the ceramic individuals come from nine archaeological sites on different Caribbean islands: Cuba, the Bahamas, Puerto Rico, Guadeloupe, and Santa Lucia dated between 1500 and 400 years.

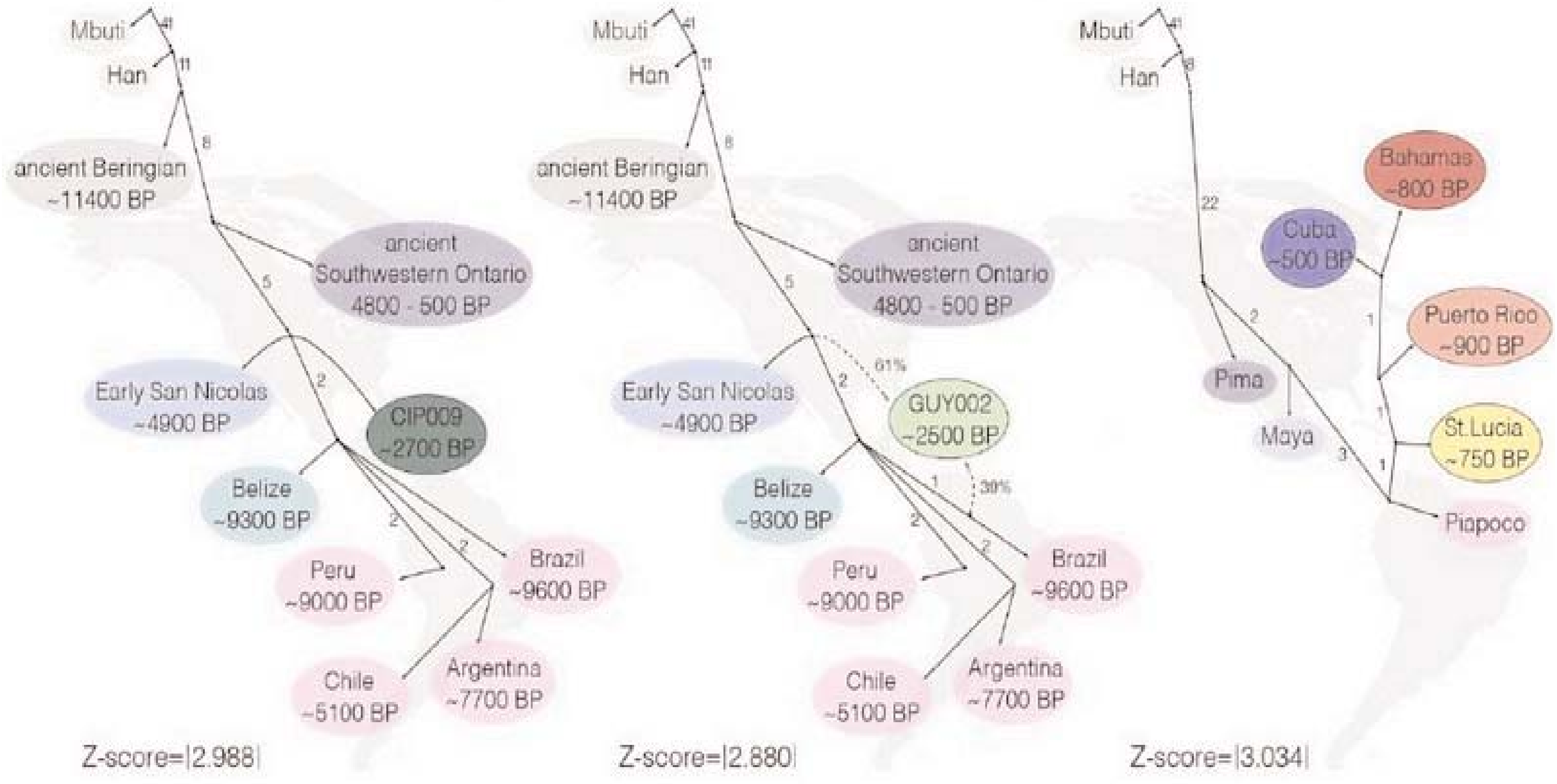
Analysis of mitochondrial haplogroups reveals important differences between the two groups. The archaic individuals mainly belong to the haplogroups A2, D1 and C1d, while those of the ceramic group are more varied and also include the haplogroups: B2, C1b and C1c: The authors then performed a Principal Component Analysis. The samples of this study are grouped into two clusters according to their archaeological origin: archaic or ceramic:



The individuals of the ceramic group regroup with ancient or contemporary individuals from South America, while those of the archaic group do not regroup with any contemporary population.

The authors then used the f4 statistic to see if the former individuals in this study were more similar to the former Bahamian individual from the previously published Fisherman's Cave or the former individuals from the Channel Islands in California. Not surprisingly, the individuals in this Fisherman's Cave study have the most genetic affinity with the former individual from the same site, followed by the other individuals in the ceramic group. Conversely, individuals of the archaic group have less genetic affinity with the ancient Bahamian individual. In addition, an individual from the Perico cave in Cuba is even genetically closer to ancient individuals from California.
The qpWave software confirms that the individuals of the two groups in this study do indeed come from two different ancestral lines and cannot be explained simply by genetic drift alone. Also although some individuals from these two groups lived around the same time, there is no sign of genetic mixing between these two groups.

The authors of this study have highlighted two different origins for the individuals of the archaic group, suggesting several migratory waves before the arrival of the ceramic group. Thus the individual CIP009 from the Perico cave in Cuba seems to come from a branch which diverges from the main Amerindian branch at the same time from the branch which leads to the individuals of the Channel Islands in California, before the dispersal of the American groups of South. Conversely, other individuals of the archaic group such as GUY002 from the Guayabo Blanco site in Cuba need an additional gene flow (39%) from South America as shown in the figure opposite left:



Thus these results suggest at least two migratory waves in the Caribbean before the arrival of the ceramic group, one of which is from North America and the other is from South America. Finally, the arrival of the ceramic group is linked to a second wave of migration from South America.

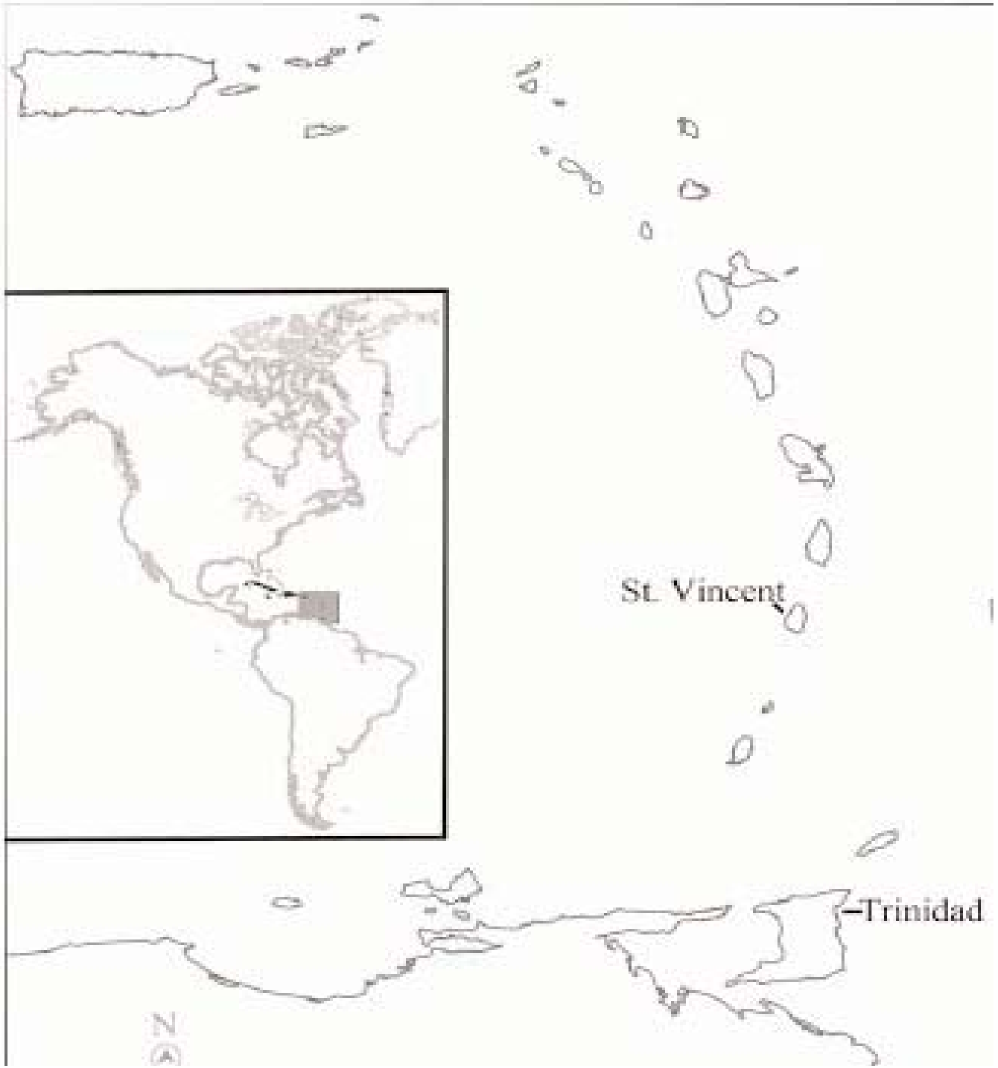
Genetic diversity in the Lesser Antilles

The Caribbean is a region bordered by the Atlantic Ocean to the east, the southern coast of the Bahamas to the north, the northern coast of South America to the south, and the east coast of Mexico to the west. They include around 700 islands and 17 million people. The first human presence is dated 7200 years ago on the island of Trinidad. Then a colonization of the islands of Cuba, Hispañola and Puerto Rico is attested between 8000 and 5000 years, followed by the Lesser Antilles and Barbados between 5000 and 3000 years. For the other islands, archaeological and linguistic data suggest the arrival of man in successive migrations until around the year 1500. The different sources of population in the Lesser Antilles are South America or the Greater Antilles. At least 8 different ethnic groups populated this region when the Europeans arrived: the Guanahatebay from Cuba, the Macorix and Ciguayo from Hispañola, the Taïnos Lucayens in the Bahamas, the Ciboney in Haiti, Jamaica and Cuba, the Classical Tainos in the Dominican Republic, Puerto Rico, the Virgin Islands and the Leeward Islands, and the Kalipuna and Karina in the Windward Islands.

These early populations were greatly affected by genetic assimilation, disease and genocide during European colonization and the slave trade. They were also dispersed to other islands or places in the Americas during this period. While archaeological, ethno-historical and linguistic data provide crucial answers to the settlement and history of this region, many questions remain as to the origin and date of the initial migrations.

Jada Benn Torres has just published a paper entitled: Genetic Diversity in the Lesser Antilles and Its Implications for the Settlement of the Caribbean Basin. He analyzed the mitochondrial DNA and the Y chromosome of two indigenous communities: the First Peoples' Community (FPC) of Santa Rosa in Trinidad and the Garifuna of Saint Vincent:

88 samples were collected for genetic testing: 65 are from Garifuna from Saint Vincent and 23 from FPC from Trinidad. After removal of related samples, 12 of the Trinidad FPC (including 5 males) and 43 Garifuna (including 18 males) remain. These data were compared to other populations in the Caribbean and South and Central America.



The results showed that for all 2 communities, the proportion of native maternal lines is 42%. However, only 2 of the 5 main Native American mitochondrial haplogroups: A2 and C1 were detected:

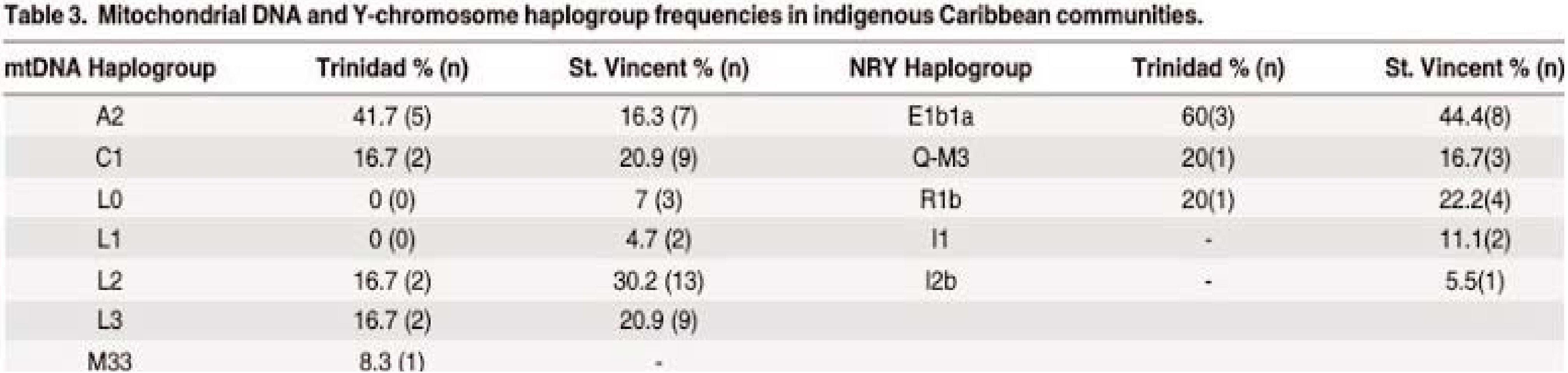


Table 3. Mitochondrial DNA and Y-chromosome haplogroup frequencies in indigenous Caribbean communities.

mtDNA Haplogroup	Trinidad % (n)	St. Vincent % (n)	NRY Haplogroup	Trinidad % (n)	St. Vincent % (n)
A2	41.7 (5)	16.3 (7)	E1b1a	60(3)	44.4(8)
C1	16.7 (2)	20.9 (9)	Q-M3	20(1)	16.7(3)
L0	0 (0)	7 (3)	R1b	20(1)	22.2(4)
L1	0 (0)	4.7 (2)	I1	-	11.1(2)
L2	16.7 (2)	30.2 (13)	I2b	-	5.5(1)
L3	16.7 (2)	20.9 (9)			
M33	8.3 (1)	-			

There are also 4 African maternal lines (L0, L1, L2 and L3) and a South Asian line (M33) in Trinidad. Genetic diversity is greater in the community of Trinidad than among the Garifuna of Saint Vincent: (table 4)

However, when the African and Asian lineages are removed, this diversity drops sharply. This may be due to several factors such as genetic drift, loss of lineages in historical times and inbreeding.

A Multi-Scale Analysis was performed on the genetic distances between samples within each population. Only Native American haplotypes were used. As the populations of North America do not provide any additional information, they were removed from this analysis:

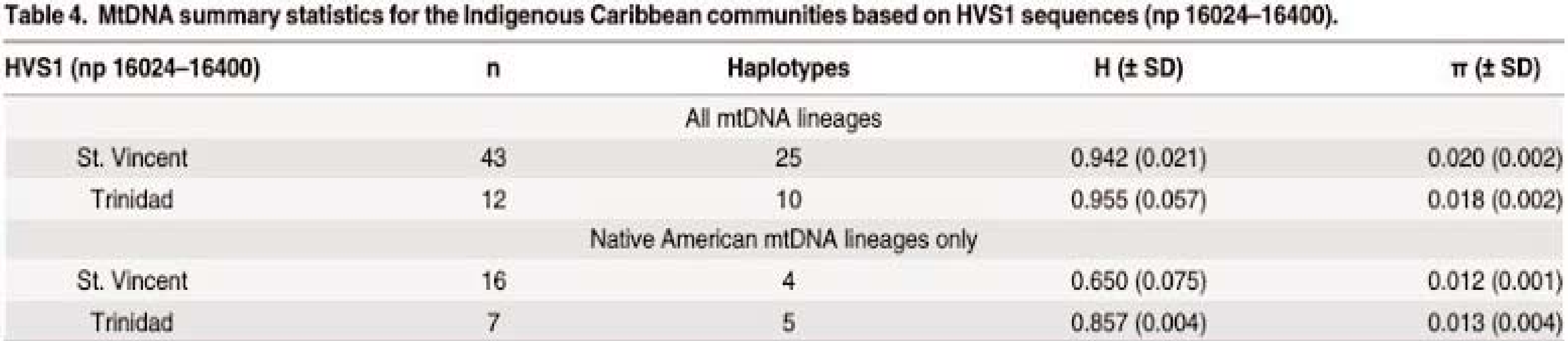


Table 4. MtDNA summary statistics for the Indigenous Caribbean communities based on HVS1 sequences (np 16024–16400).

HVS1 (np 16024–16400)	n	Haplotypes	H (± SD)	π (± SD)
		All mtDNA lineages		
St. Vincent	43	25	0.942 (0.021)	0.020 (0.002)
Trinidad	12	10	0.955 (0.057)	0.018 (0.002)
		Native American mtDNA lineages only		
St. Vincent	16	4	0.650 (0.075)	0.012 (0.001)
Trinidad	7	5	0.857 (0.004)	0.013 (0.004)

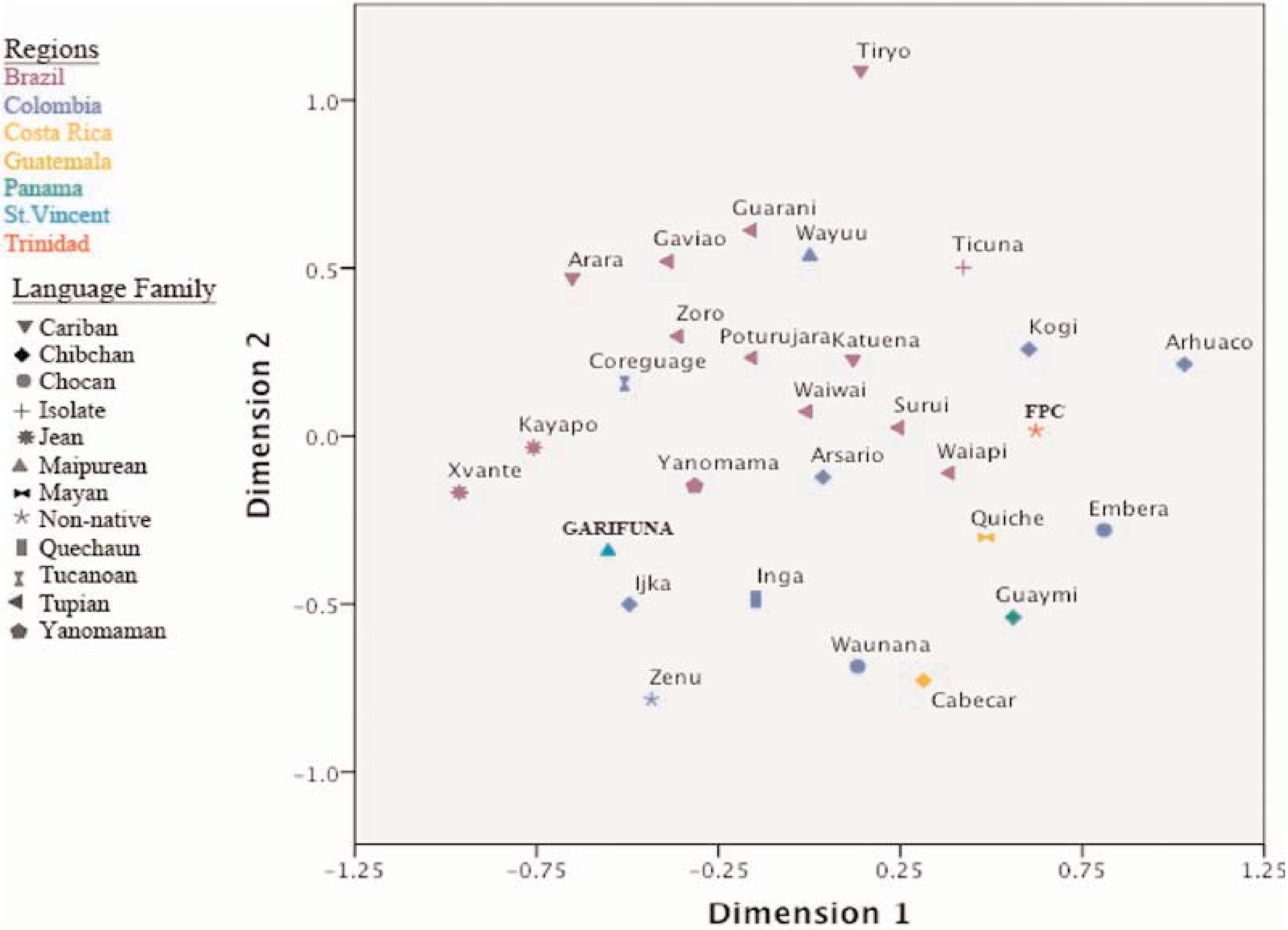
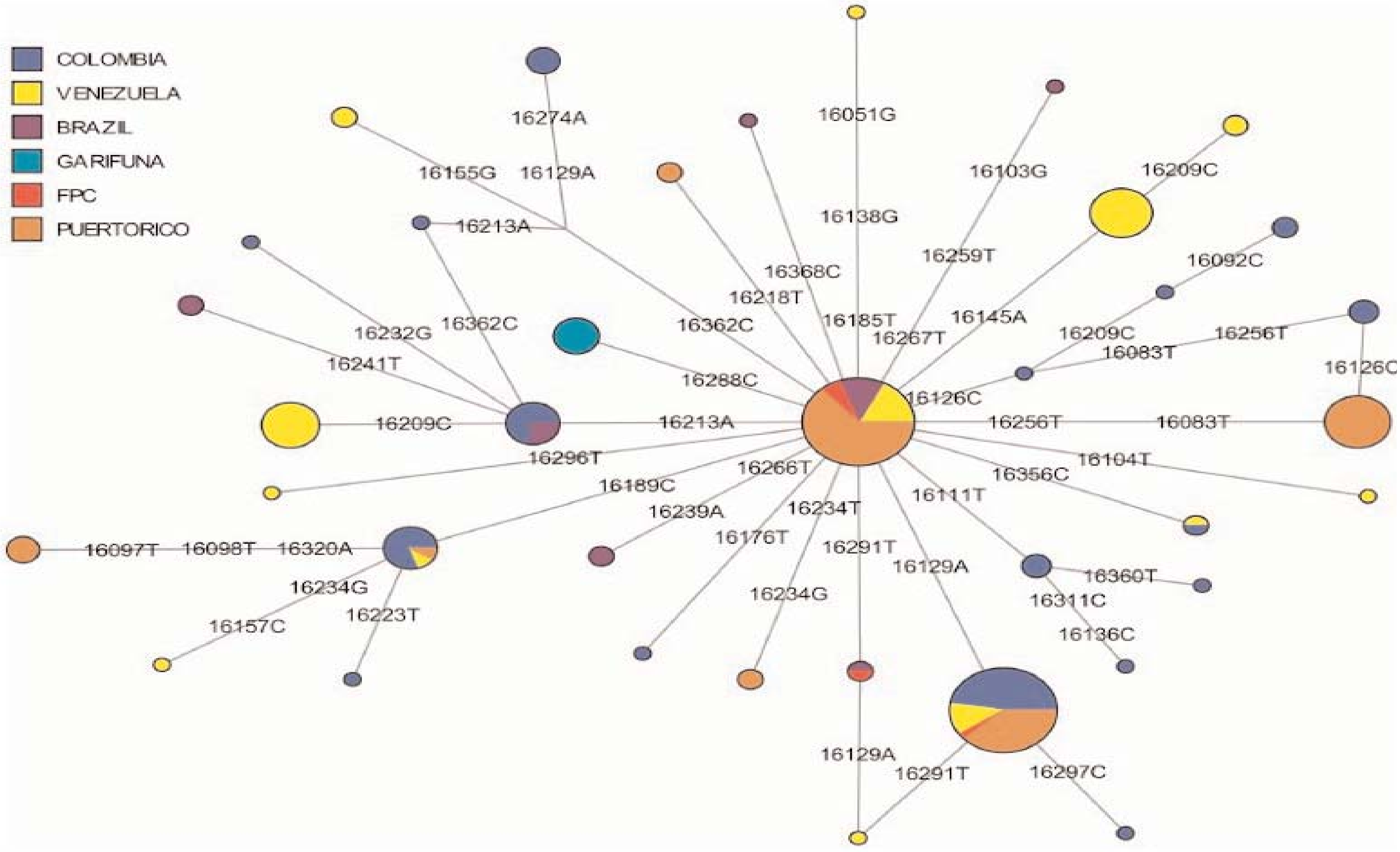


Fig 2. A MDS plot of FST estimates based on mtDNA HVS1 sequences (np 16024–16400) for Indigenous Caribbean and comparative Central and South American populations. The stress value of the plot is 9.8%. Data points are labeled with the population name and color-coded by geographic origin, with each shape corresponds to the language family of the sample.

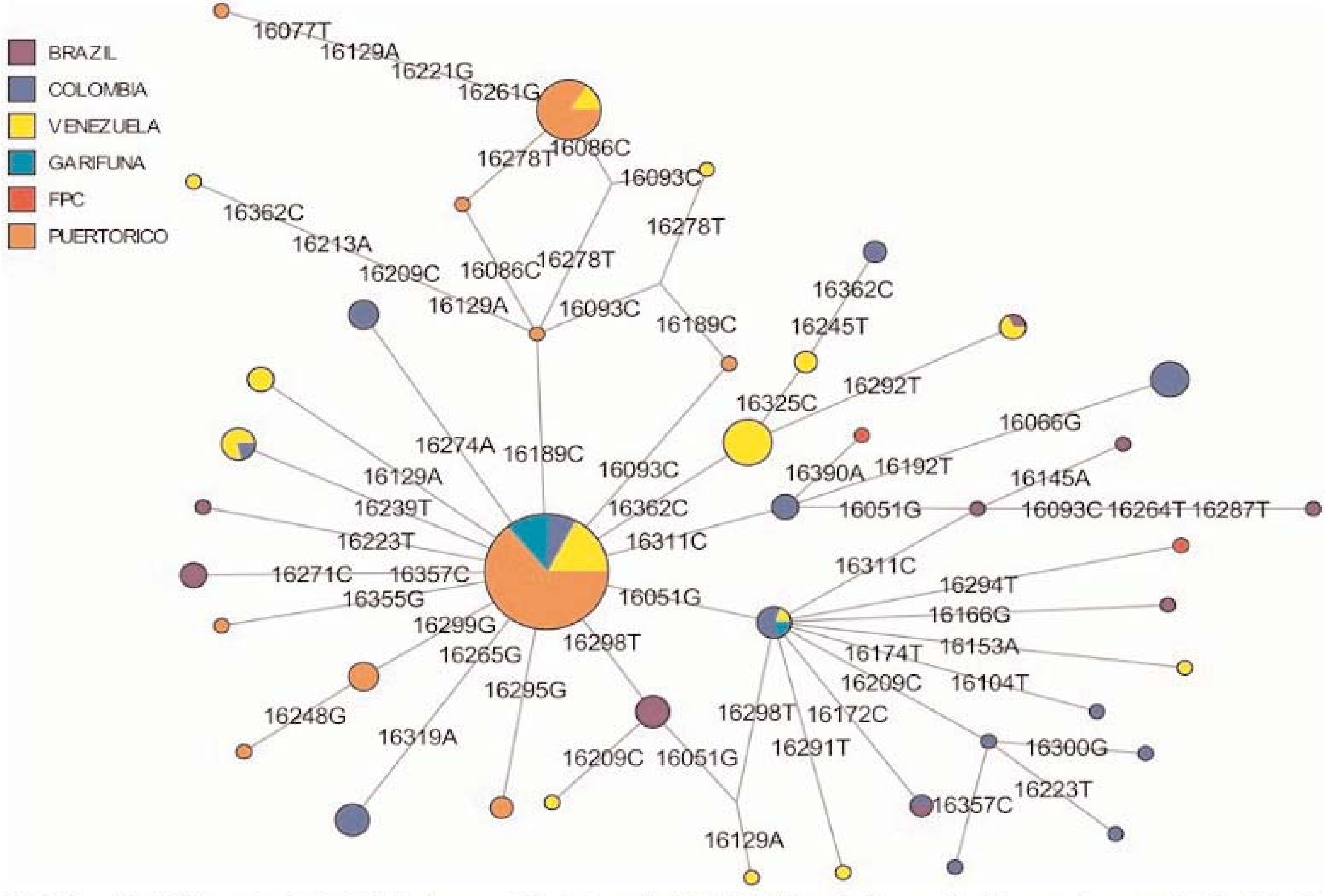
Interestingly, the populations of the Caribbean are distant from each other with populations of South America lying between them. Thus FPC of Trinidad is closer to certain populations of Brazil, Colombia or Central America, while the Garifuna of Saint Vincent are closer to different populations of Colombia or Brazil. In addition, the populations of the Caribbean do not seem to come close to a particular linguistic group. However, they had to speak a language belonging to both the Arawakian and Caribbean families.

Networks were then traced from the HVR1 sequences of the different populations, for the A2 and C1 haplogroups. As the haplotypes of the Central American populations are well separated from other populations, they were removed from this analysis:



In the haplogroup A2 network above, haplotypes from Trinidad, Puerto Rico, Venezuela and Brazil are found in the central node. A related haplotype defined by the 16288C mutation is observed only in St Vincent.

The two C1 haplotypes from Saint Vincent correspond to old haplotypes from Guadeloupe located in Marie-Galante and La Désirade dated between 1289 and 1445. There is therefore a certain genetic continuity in the Lesser Antilles at least since this date.



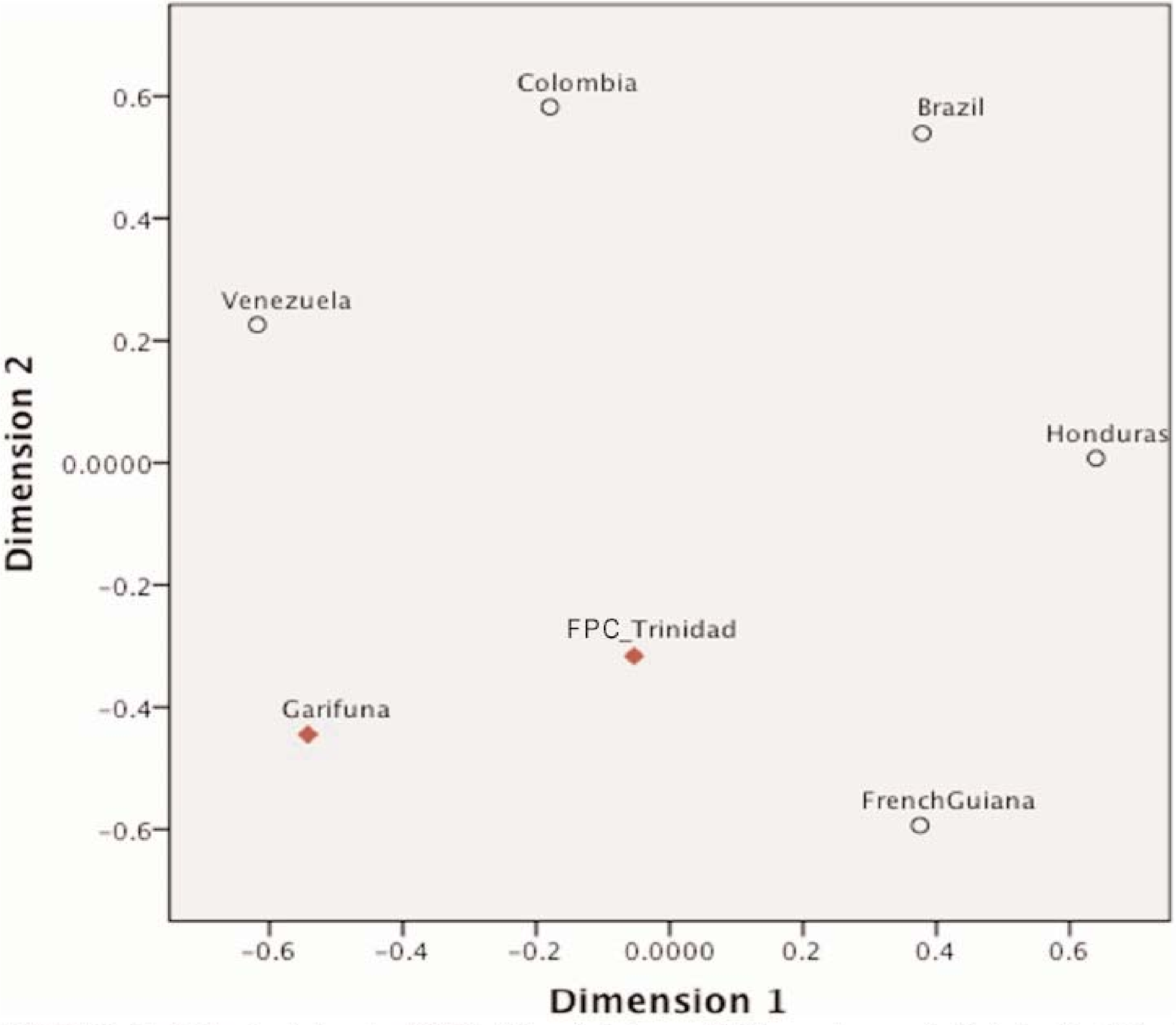
On the other hand the maternal Asian lineages in Trinidad are not surprising knowing that after the emancipation of 1838, the slaves of African origin from Trinidad left the island and were replaced by South Asian workers from Bengal, Awadh in northern India and Punjab.

Estimates of the ages of Native American maternal lineages indicate that haplogroup C1 is younger (2,900 years) than haplogroup A2 (8,500 years). These dates coincide with archaeological evidence which indicates that the Lesser Antilles were inhabited 7,200 years ago in a series of migrations from neighboring regions.

African (E1b), European (R1b), and Native American (Q-M3) Y chromosome haplogroups are present in both populations of Trinidad and Saint Vincent. The Native American haplogroup C3c common among the Na-Dene populations of North America is absent from the populations of the Caribbean. Over 80% of the Y chromosome haplotypes are non-Native American. In Saint Vincent there are about as many African haplotypes as there are European haplotypes, while in Trinidad there are many more African (60%) than European (20%) haplotypes (see table 3 below). above). The paternal genetic diversity of the populations of the Caribbean is equivalent to that of the populations of the Americas. All Caribbean haplotypes are unique except a common Saint Vincent haplotype with a French Guiana haplotype (Kali'na population who speak a Caribbean language).

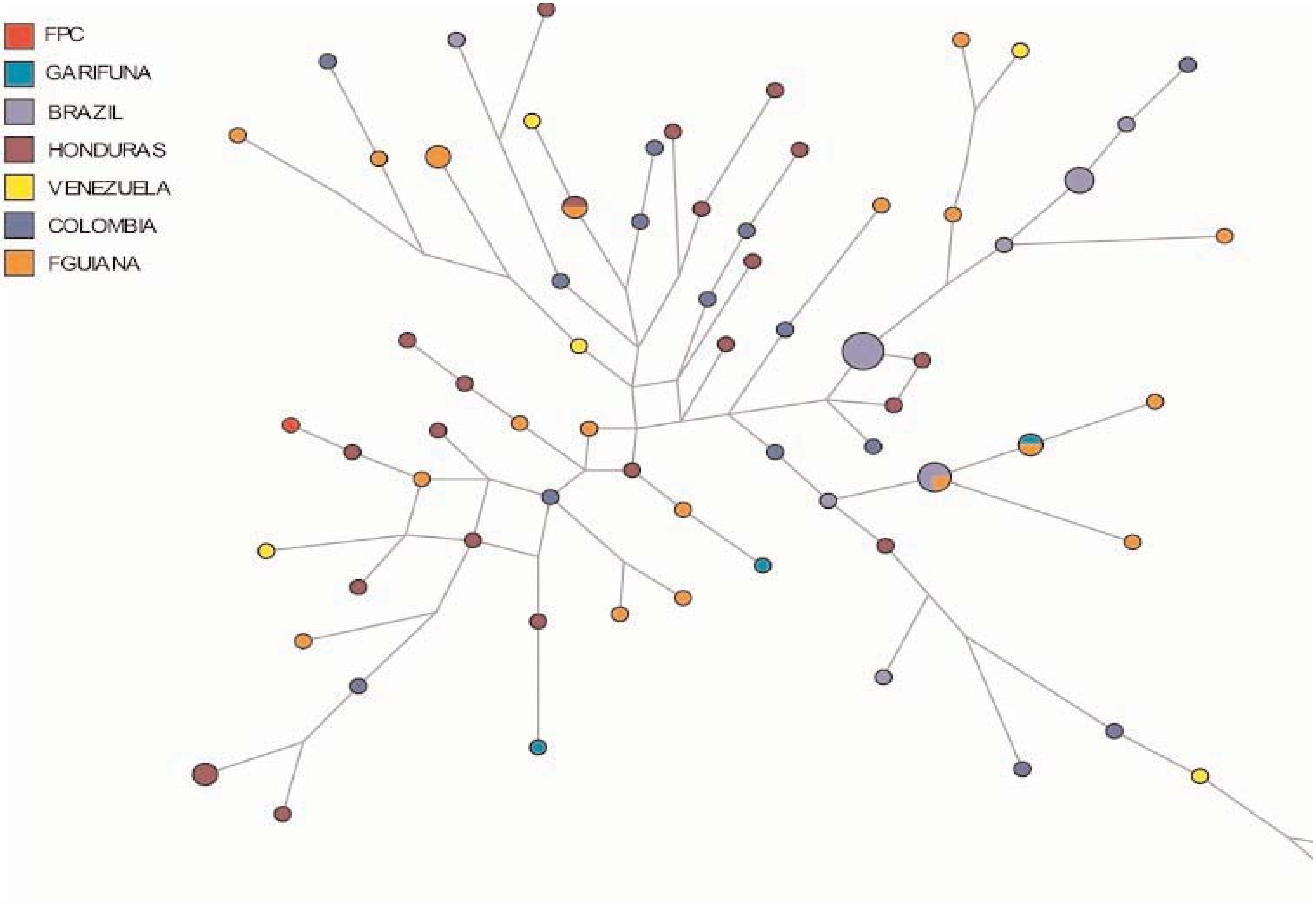
A Multi-Scale Analysis was carried out on the genetic distances between samples within each population:

In the C1 haplogroup network, samples from Saint Vincent are mostly located in the central node and the node that defines the C1d subclade (16051G mutation), unlike samples from Trinidad or Puerto Rico:



Caribbean groups are far removed from groups in Brazil or Colombia. A network was drawn for haplogroup Q-M3 from STR markers:

Caribbean haplotypes are unique and scattered throughout the network. However the lack of haplogroups in the Caribbean that are found in populations of southwestern America, indicatesthat the potential source of the populations of the Caribbean must be rather in Brazil or Venezuela.



In addition, the haplotypes differ between Trinidad and Saint Vincent despite the small geographical distance between the two islands. This implies that either they come from different populations, or they have undergone different genetic drifts due to their respective isolations. These genetic data point more to an origin among the Kali'na speaking a Caribe language. They are currently located in northern Brazil, Venezuela, British Guiana and Suriname.

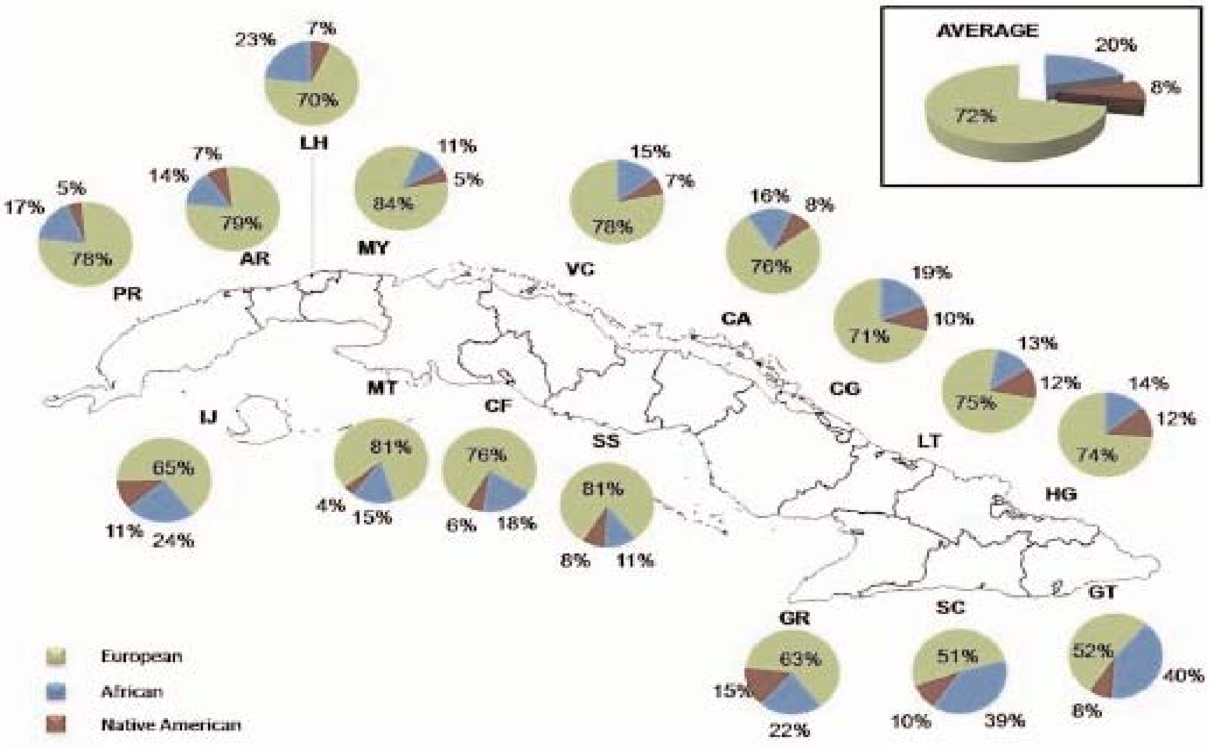
History of the genetic mixture of the Cuban population

Beatriz Marcheco-Teruel has just published an interesting paper on the genetics of the Cuban population. It is titled: Cuba: Exploring the History of Admixture and the Genetic Basis of Pigmentation Using Autosomal and Uniparental Markers.

Evidence of the first human colonization on the island of Cuba dates back around 7,000 years. When the Spanish arrived, the indigenous population was estimated at around 110,000 individuals. There were then two types of population: the Guanahatabey were hunter-gatherers who lived in western Cuba and represented 10% of the total population. They are considered to be the descendants of the first inhabitants of the island. The Taino were farmers who lived in the rest of the island and made up 90% of the population. They spoke an Arawak language. It is assumed that both groups come from populations from South America. In the space of 50 years, the indigenous population of the island has fallen to a few thousand individuals. The Spanish then repopulated the island with indigenous populations from North or Central America, and with slaves from the west coast of Africa. It is estimated that between 700,000 and 1,300,000 Africans arrived in Cuba during the period of the slave trade. Immigration from Spain continued until the mid-twentieth century. Thus the genetic structure of the current population of the island of Cuba is the result of the history of these different mixtures between Amerindians, Europeans and Africans. Today, the Cuban census classifies the island's population into three categories: whites, mestizos and blacks.

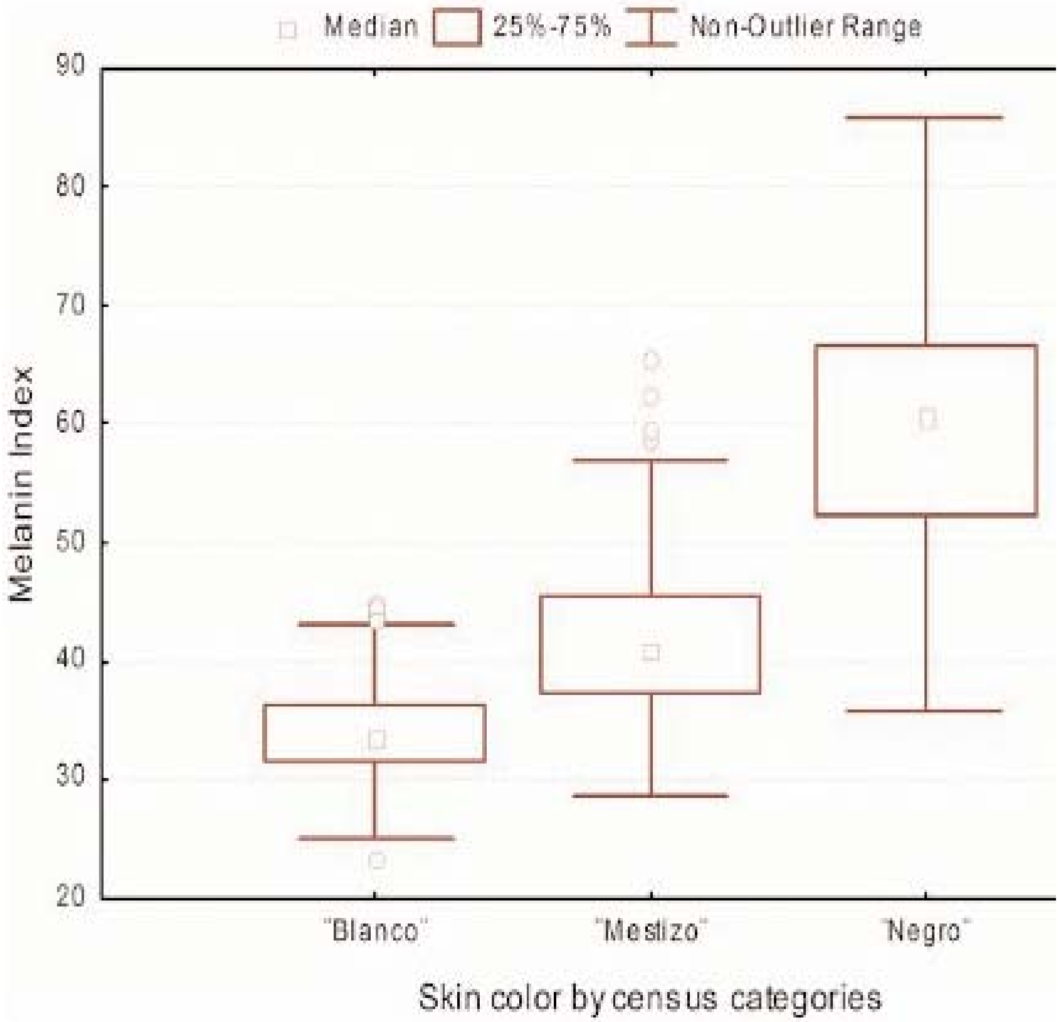
The objective of this study is to present the results obtained on a sample of 1,019 individuals from the 16 provinces of Cuba. 128 autosomal SNPs were used to characterize the ancestry of the Cuban population. In addition, mitochondrial DNA and Y chromosome tests were performed on this sample. Finally, 16 SNPs linked to skin pigmentation were also tested.

Thus the proportion of European ancestry varies from 51% in the province of Santiago de Cuba to 84% in the province of Mayabeque. The proportion of African descent ranges from 11% in Mayabeque to 40% in Guantanamo, and the proportion of Native American descent ranges from 4% in Matanzas to 15% in Granma.



European ancestry is strongest in western Cuba, while African and Native American ancestry are strongest in the east of the island.

The sample studied is made up of 55% white, 33% mixed race and 12% black according to Cuban census criteria. It is therefore interesting to compare this classification with on the one hand an objective measurement of the pigmentation of the skin of these individuals and on the other hand their genetic ancestry. Skin pigmentation is estimated from the level of melanin. The latter is measured with a narrowband reflectometer on the inner side of the upper part of an arm (little exposure to the sun), and on the dorsal side of a hand (much exposed to the sun). On average, the melanin level is slightly higher in men (40.68) than in women (39.17). The overall average is 39.8 for the entire sample, but ranges from 23.4 to 85.9. The average melanin level is 34.06 for whites, 41.69 for mestizos and 60.59 for blacks:



The results of autosomal tests showed that on average the European contribution to the Cuban population is 72%, the African contribution is 20% and the Native American contribution is 8%. However, these values vary a lot depending on the province:

The graph above shows that the different categories overlap. Thus two individuals with the same melanin index can belong to 2 different categories, for example white and mixed race.

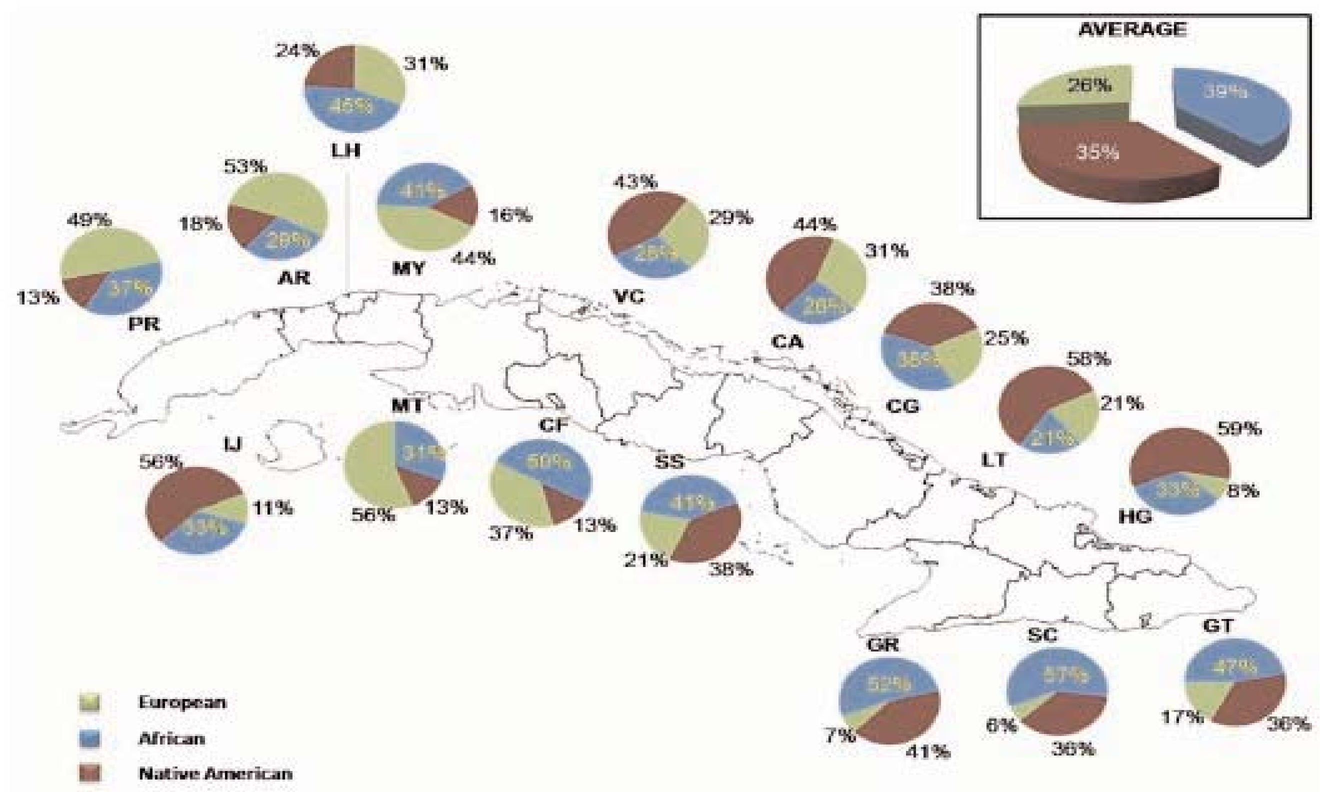
Among whites, the European, African and Native American contributions are respectively 86%, 6.7% and 7.8%. Among the mestizos these values are 63.8%, 25.5% and 10.7%. Finally among blacks these values are 29%, 65.5% and 5.5%. There is therefore a strong correlation between skin pigmentation and the ancestry of individuals. African ancestry is thus positively correlated with the melanin index, European ancestry is inversely correlated with the melanin index, while there is no correlation between Amerindian ancestry and the index of melanin. In addition, on average, the melanin index is higher in the provinces of Santiago de Cuba and Guantanamo in accordance with a higher African ancestry in these two regions.

There is a strong correlation between the proportion of African descent and the proportion of blacks by province. In contrast, in provinces with a high proportion of African descent, blacks do not have more African descent than blacks located in provinces with a low proportion of African descent.

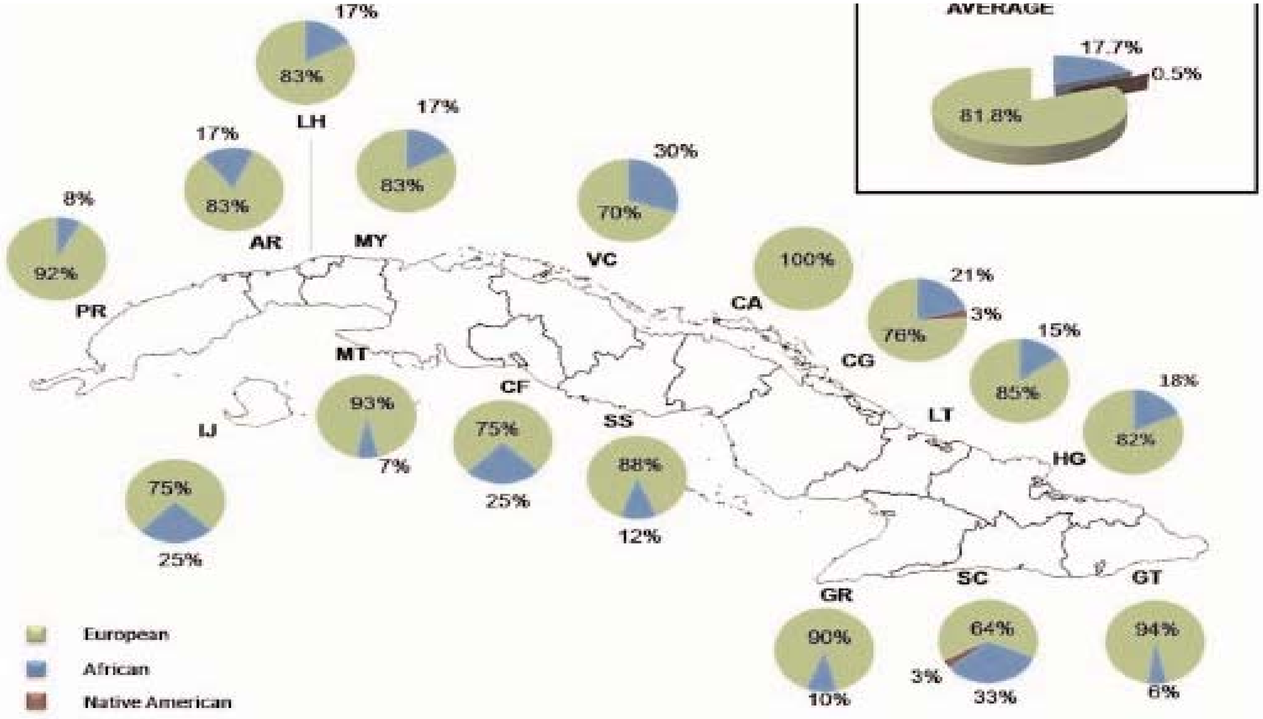
There is also a positive correlation between the proportion of mixed race and Native American ancestry by province, although it is weaker than the correlation linked to African descent and the proportion of blacks.

Finally, the proportion of African descent is higher in urban areas than in rural areas. Conversely, the proportion of Amerindian ancestry is higher in rural areas than in urban areas. These correlations are linked to the black population and not to the white and mestizo populations.

A total of 943 individuals were tested for their mitochondrial DNA on 18 SNPs to distinguish haplogroups of African, Eurasian or Amerindian origin. Thus, on the whole sample, 34.5% of the haplotypes are of Amerindian origin, 38.8% are of African origin and 26.7% are of Eurasian origin. These values vary from province to province:



384 men were tested for their Y chromosome DNA on 12 SNPS to distinguish haplogroups of African, Eurasian or Amerindian origin. Thus, overall, 81.8% of the samples are of European origin, 17.7% of the samples are of African origin and only 0.5% of the samples are of Amerindian origin (2 samples):



So there is a big difference between paternal ancestry and maternal ancestry in the Cuban population. European immigrants were thus overwhelmingly men who took women from the Amerindian or African populations. The paternal Amerindian lineages have hardly survived.

16 autosomal SNP markers are linked to skin pigmentation. According to this study, only four SNPs seem to significantly influence the melanin index: is located on the SLC24A5 gene, and are located on the SLC45A2 gene, and is located on the HERC2 gene. Thus the allele marker A decreases the melanin index by a factor of 5.04 and the allele marker G by a factor of 3.40. The allele marker G decreases the melanin index by a factor of only 1.11. The direct effects of the marker are not significant. It is believed to act in conjunction with the marker located on the same gene on chromosome 5.

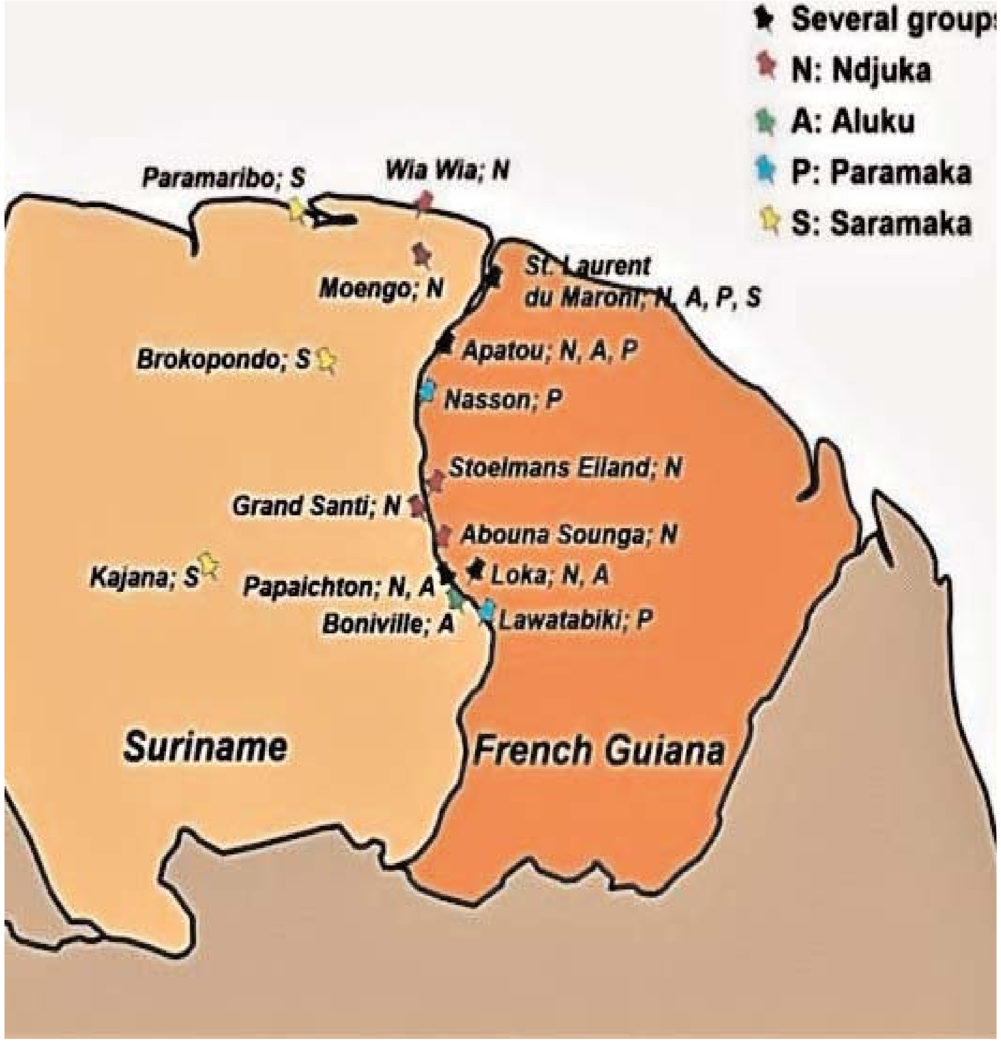
Genomic ancestry of the Black Maroon communities of French Guiana and Suriname

Between 1526 and 1875 approximately 7 million Africans were transported to South America. According to records, they embarked in different coastal regions of Africa. Thus, the populations of African origin in French Guiana and Suriname came mainly from the Gold Coast, the Gulf of Benin and West Central Africa.

Previous genetic studies of American populations of African descent have revealed differences in their proportions of African, European and Native American ancestry, their dates of genetic mixtures, and their gender biased gene flow.

The Noir Marron communities are descendants of African slaves who escaped and formed villages of free men. Thus the Noir Marron community of Suriname and French Guiana is one of the largest in South America. They are the descendants of African slaves who escaped from the Dutch plantations of Suriname during the 16th and 17th centuries.

Cesar Fortes-Lima and his colleagues have just published a paper entitled: Genome-wide Ancestry and Demographic History of African-Descendant Maroon Communities from French Guiana and Suriname. They analyzed the genome of 107 South Americans of African origin including 71 Black Maroons from French Guiana and Suriname (23 Aluku, 23 Ndjuka, 19 Saramaka and six Paramaka), 16 Afro-Brazilians and 20 Afro-Colombians:

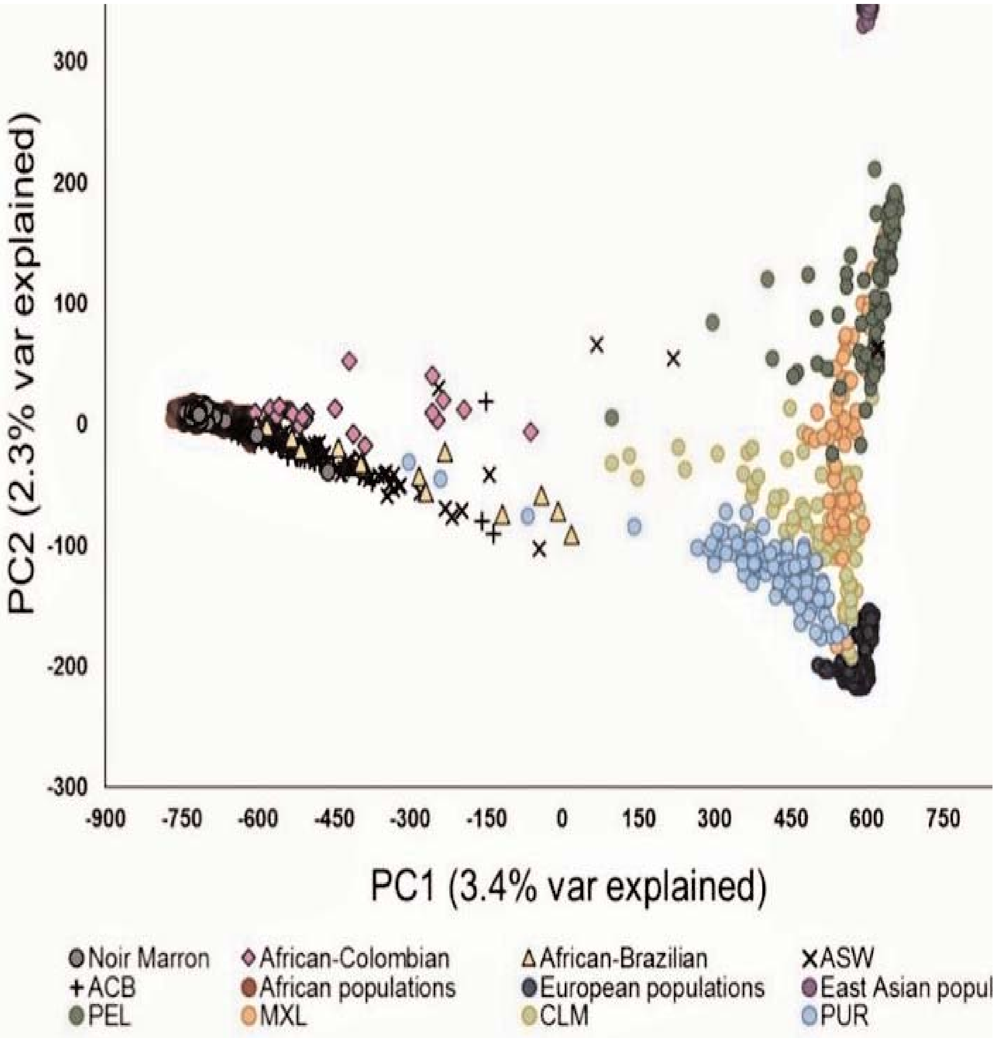


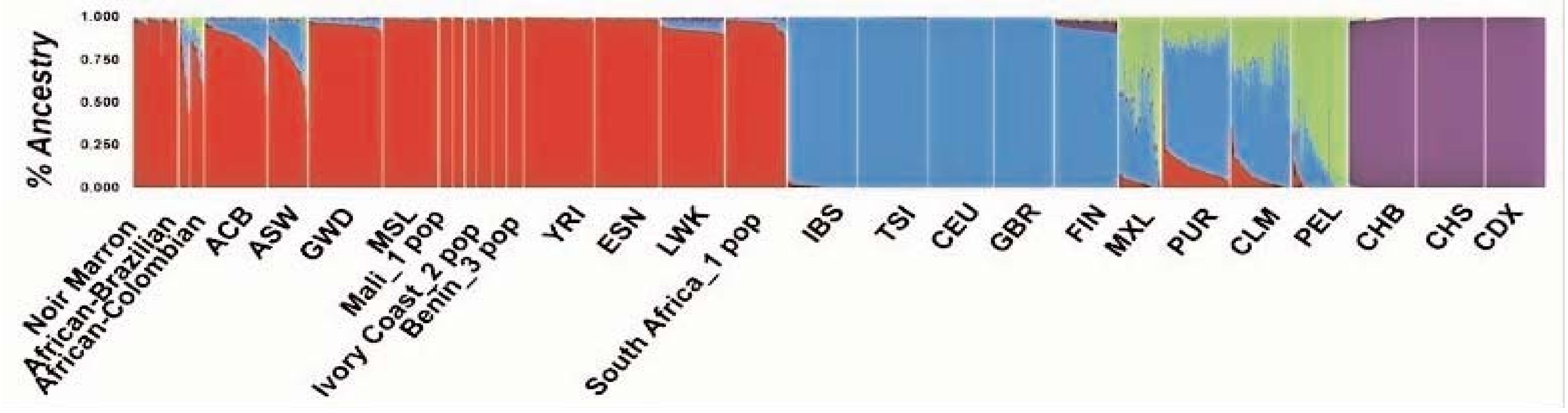
African-Descendant Maroon Communities from French Guiana and They also analyzed the genome of 124 West Africans including 19 Fon, 24 Bariba and 24 Yoruba from Benin, 20 Ahizi and 17 Yacouba from Côte d'Ivoire and 20 Bwa from Mali. These results were merged with two sets of genomes previously obtained, including 157 individuals from the Caribbean (ACB) and North America (ASW).

The authors performed an analysis with the ADMIXTURE software. The figure below gives the result obtained for a value of K = 4 (below)

Black Maroons represent the African-American population that contains the most African ancestry (98%). It is equivalent in the four communities with the exception of one Saramaka individual (90%) and one Ndjuka individual (79%). In addition, this population has a high coefficient of consanguinity and a large number of homozygous segments, signs of strong isolation.

Conversely, Afro-Brazilians have 23% of European ancestry and 5% of Amerindian ancestry and Afro-Colombians have 12% of Amerindian ancestry and 11% of European ancestry. They therefore mingled a lot more than the Black Maroons. These results are also found in the Principal Component Analysis. In the figure opposite, the African populations are in red on the left, the European populations in dark blue at the bottom right and the East Asian populations in purple at the top right:

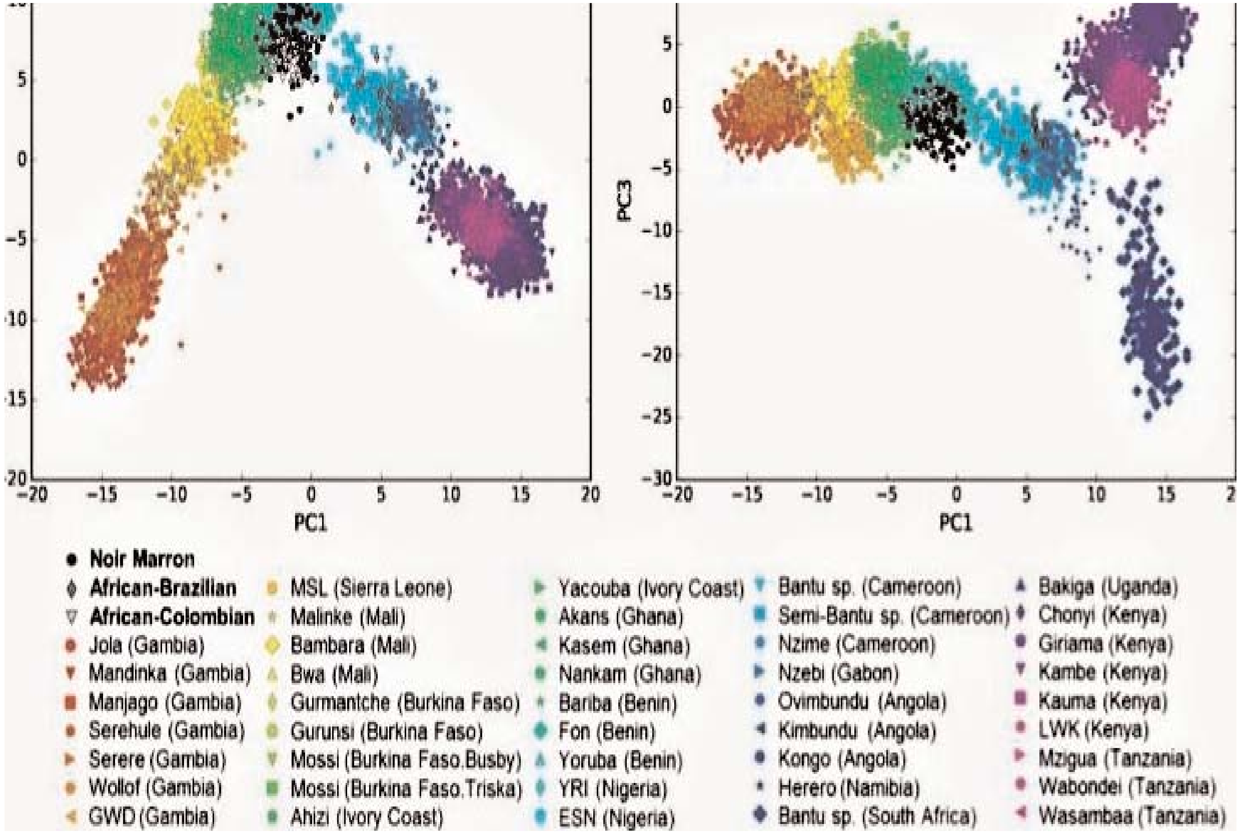


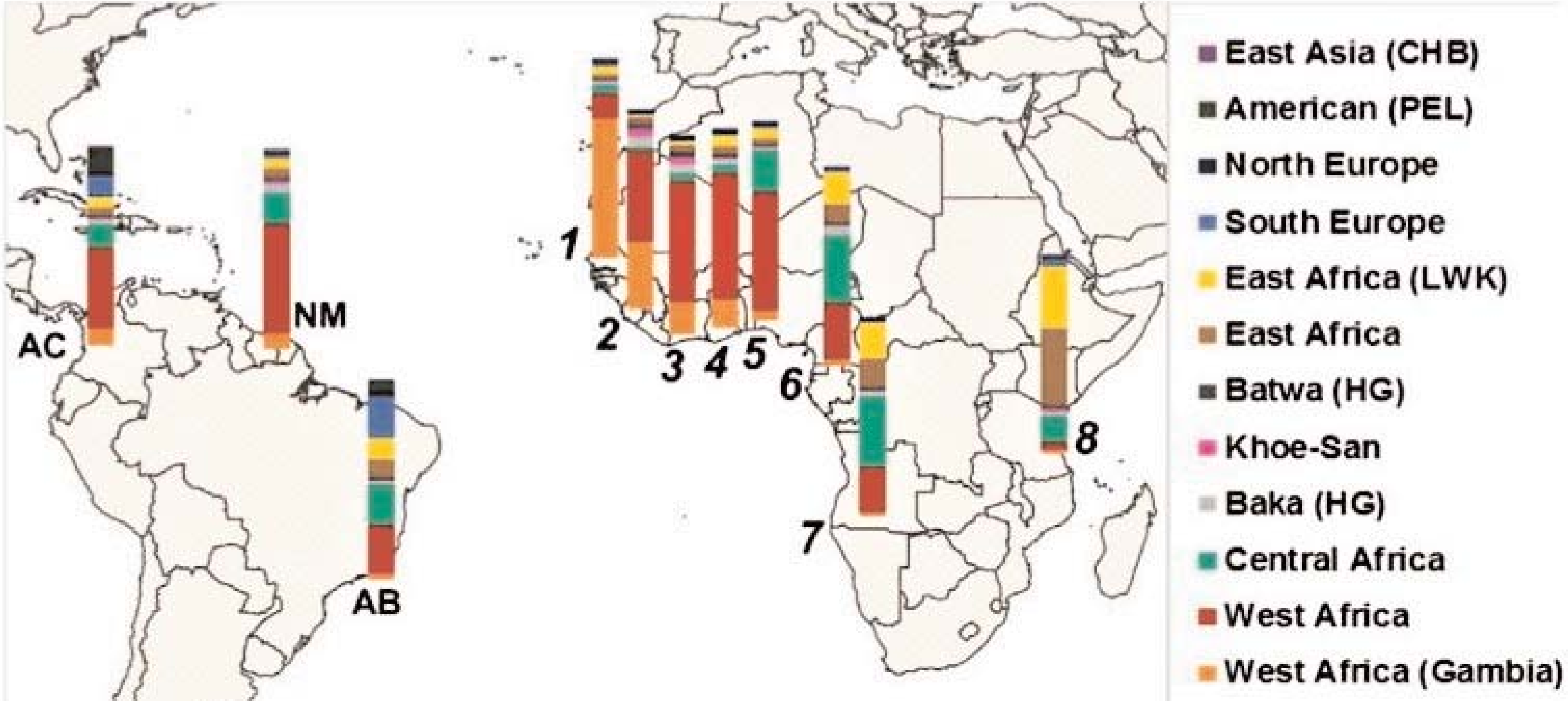


PEL are Peruvians from Lima, MXL are Mexicans from Los Angeles, CLM are Colombians from Medellin and PUR are Puerto Ricans. The Black Maroons represented by gray circles are indeed the population closest to the African populations.

On the other hand, the analysis with the ADMIXTURE software for K = 12 makes it possible to highlight 12 distinct ancestries. The figure below gives the result for the different populations of African descent:
The Noir Marron (NM) population is similar to the African population of the Gulf of Benin (African population above).

The authors then masked the European and Native American ancestry in the African American populations and constructed a new Principal Component Analysis:





The results show that the Black Brown and Afro-Colombian populations overlap with the populations of the Gulf of Benin and Ghana. Conversely, the Afro-Brazilian population overlaps with the Bantu populations of Cameroon, Gabon and Angola in West Central Africa. These results are confirmed by an analysis of IBD segments.

The authors then used the GLOBETROTTER software to estimate the dates of genetic mixtures. Thus several waves of mixtures were identified in the 18th century in different populations. Black browns received an Amerindian gene flow around 1750 followed by a European gene flow around 1775. Afro-Brazilians received an Amerindian gene flow around 1756 followed by a European gene flow around 1796.

Finally the Afro -Colombians received a Native American gene flow around 1731 followed by a European gene flow around 1749.

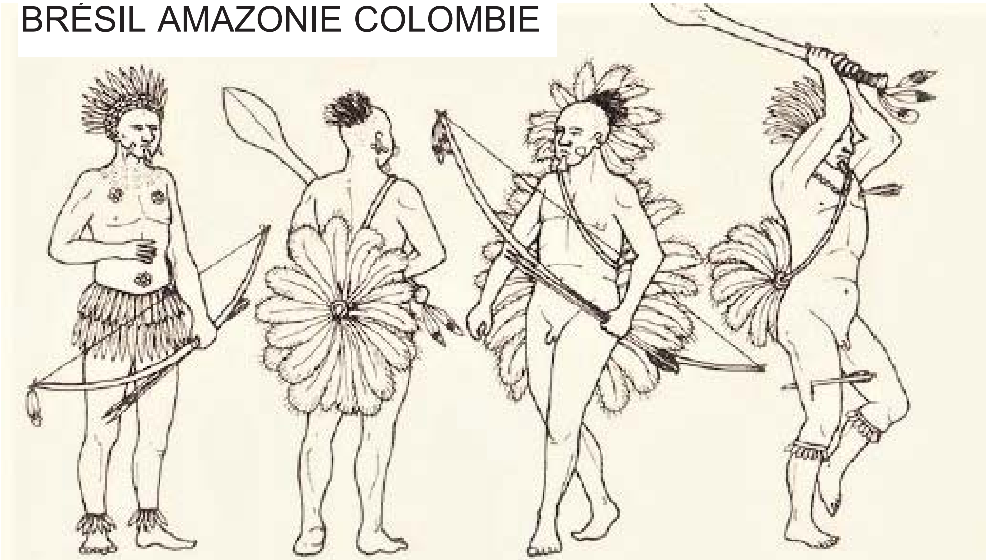
These gene flows are sexually biased. Thus in the Afro-Brazilian population the European ancestry is more masculine while the African and Amerindian ancestry are more feminine. In the Afro-Colombian population European and Native American ancestry are more masculine while African ancestry is more feminine.

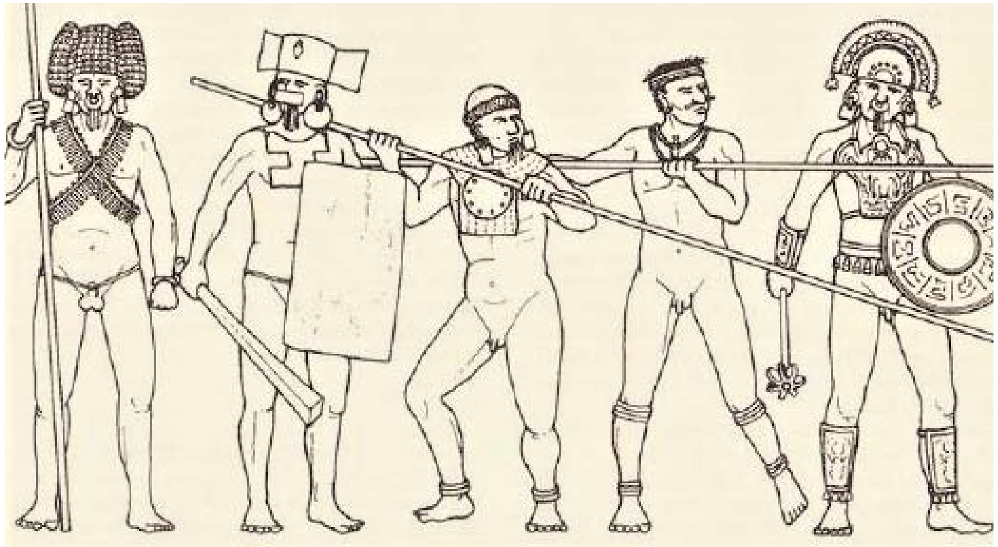
Fresque - El Encanto" - Caquetá - Colombie

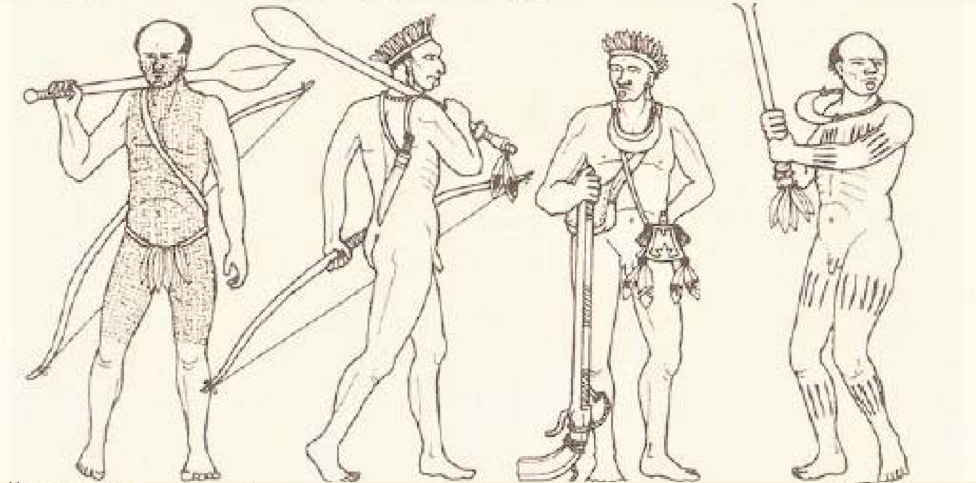
Nous pouvons trouver dans tout le territoire colombien des exemples d'art gravé sur les rochers, plus principalement dans les régions de Caquetá, Cundinamarca et Boyacá, où les investigations se sont recentrées et où les chercheurs en ont trouvé le plus grand nombre. Le reste du pays est encore à découvrir bien qu'il y ait des études isolées et des efforts de particuliers. En Colombie, l'étude des signes rupestres a dépassé les attentes; ils représentent une remarquable valeur esthétique en reflétant le comportement humain, les diverses caractéristiques de sa vie, ses peurs et ses espoirs. La Colombie par sa position géographique est une zone de contact entre les cultures d'importance comme celle du Mexique ou du Pérou, ce qui fait d'elle un pays de contraste et de convergence artistique.

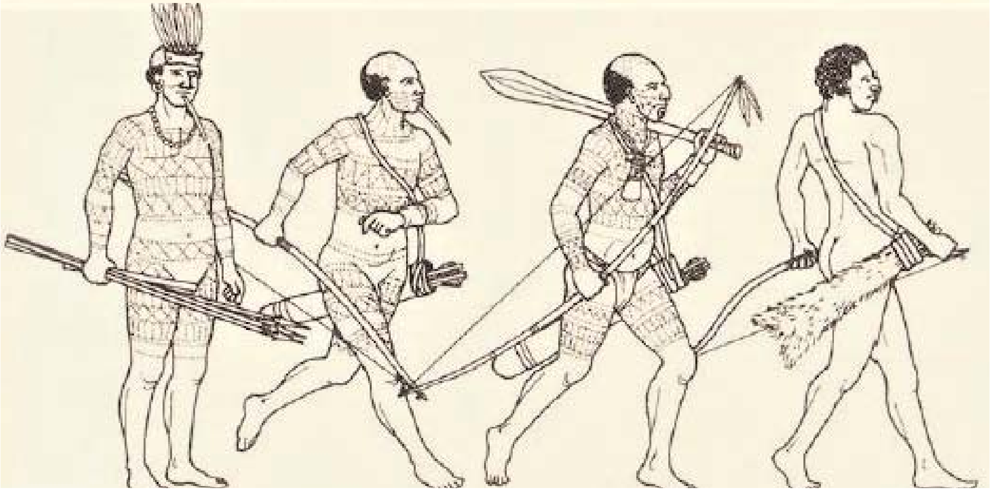
De plus à La Florida, dans le Sud de l'Équateur, des archéologues de l'Institut de recherche pour le développement ont découvert un site funéraire, ou cérémoniel, daté d'environ 2 450 av. J.-C. C'est la plus vieille occupation connue de l'Amazonie occidentale. De la céramique, des récipients en pierre finement polie et un millier de perles en turquoise prouvent l'existence de sociétés complexes sur le versant amazonien des Andes, à une époque encore insoupçonnée. Cette découverte pourrait remettre en question les origines des grandes civilisations andines.

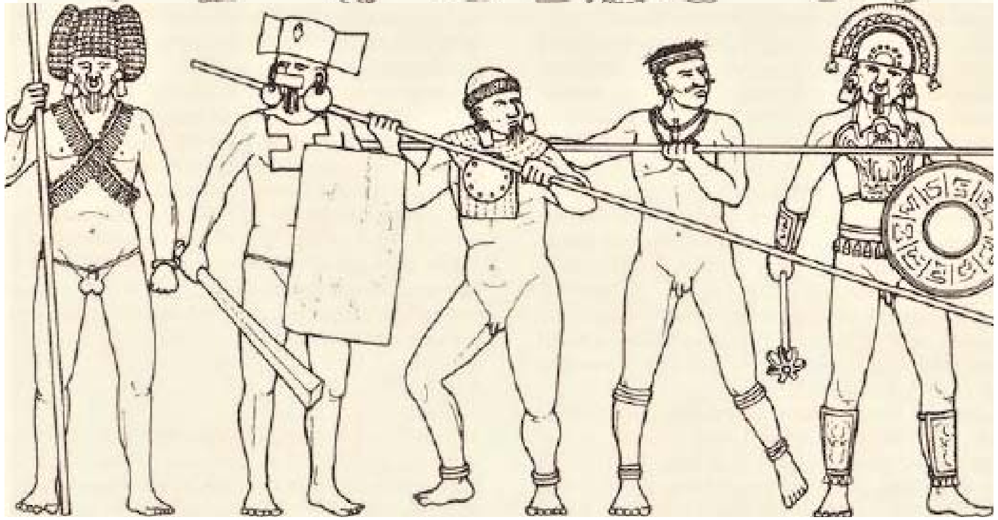
BRÉSIL AMAZONIE COLOMBIE

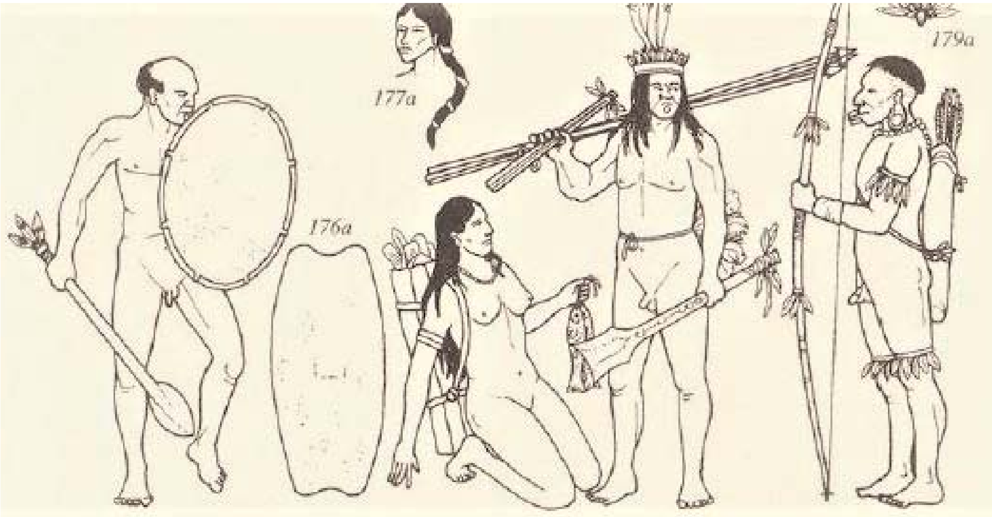


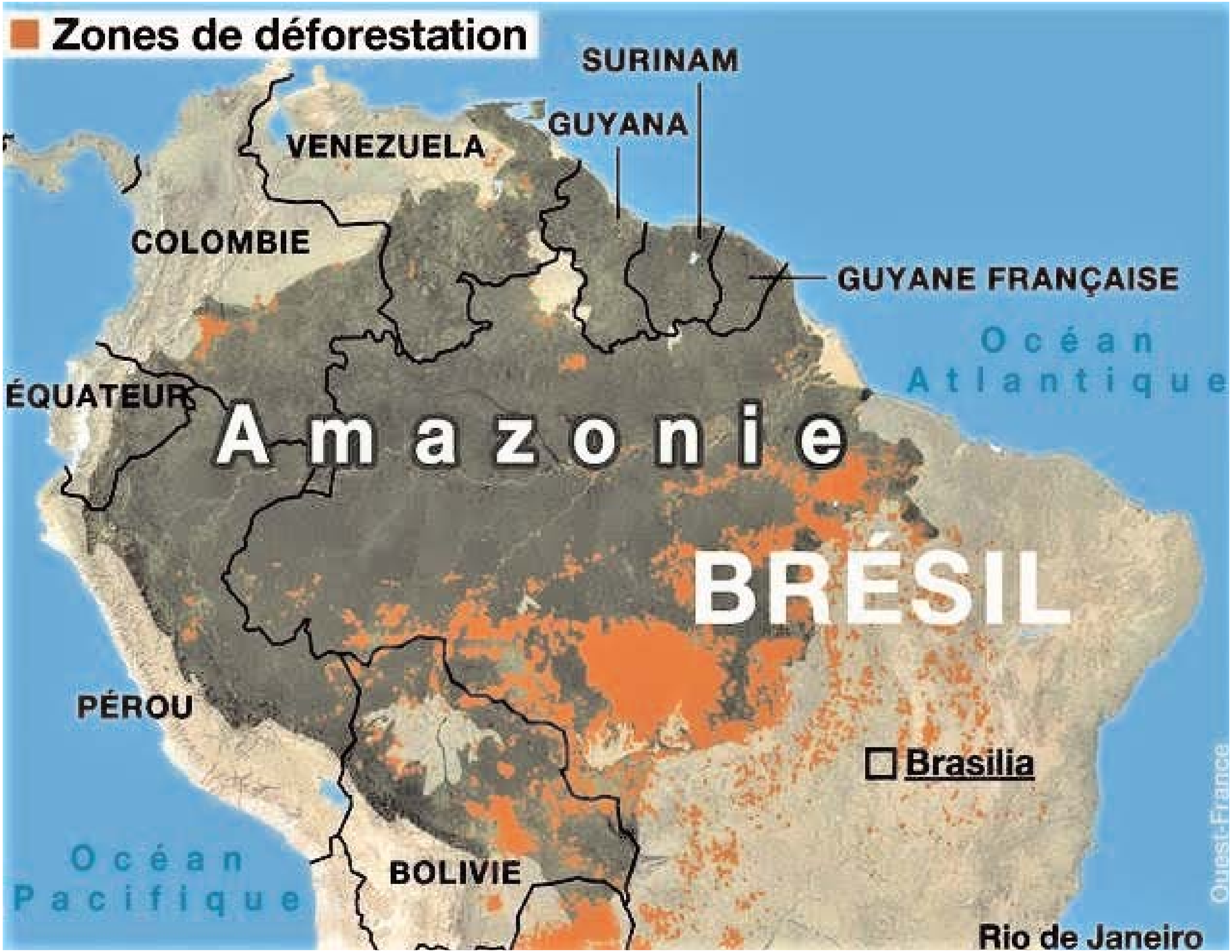











🟧 Zones de déforestation
SURINAM
GUYANA
VENEZUELA
COLOMBIE
GUYANE FRANÇAISE
Océan Atlantique
ÉQUATEUR
Amazonie
BRÉSIL
PÉROU
Brasilia
Océan Pacifique
BOLIVIE
Rio de Janeiro
Ouest-France

Australian-Melanesian genetic affinity among the Amazon Indians

Two articles have just appeared simultaneously in the journals Science and Nature concerning an Australo-Melanesian genetic affinity in certain Amerindians, in particular in the Amazon.

Maanasa Raghavan's article

It is commonly believed that the ancestors of Native Americans are the descendants of the Siberian peoples who crossed the Bering Strait at the end of the Pleistocene. In addition, the Clovis culture, dated around 13,000 years ago, does not correspond to the first inhabitants of the region. Indeed, archaeological evidence indicates that humans were present in America at least 14,600 years ago. However, interpretations differ on the date of arrival of the first humans, and on the number of migratory waves.

Maanasa Raghavan has just published an article titled: Genomic Evidence for the Pleistocene and Recent History of the Native American Population. He sequenced 31 genomes from contemporary individuals from America, Siberia and Oceania, as well as 23 genomes from ancient individuals dated between 200 and 6,000 years ago from North and South America, including Pericúes from Mexico and from Patagonia. from Tierra del Fuego to the southern tip of America. Previously published genomes were added to this study:

An analysis with the Admixture software was performed.

A specific Native American component appears for K = 4. For K = 15, there is a structure that appears among Native Americans that separates the Athabaskans and North American Indians (especially from Canada) from the rest of the Native Americans. As we said previously, the former individual of Anzick is located among the Amerindians of the South, while the former individual Saqqaq is similar to the Siberian populations.

This result is confirmed by an analysis with the software Treemix which shows that all the Amerindians form a monophyletic group which then splits in two between the Athabaskans of the North and the other Amerindians. The Paleo-Eskimos and the Inuit are on a separate branch from the Native Americans. The Siberians Yupik and Koryak are the genetically closest Eurasians:

To estimate the date of divergence of Amerindians and Eurasians, the authors used the diCal2.0 method which defines demographic models, and a method by IBS (Identity By State). The estimated divergence value between Native Americans and Siberian Koryaks is approximately 20,000 years with both methods used. By adding a gene flow hypothesis after humans first arrived in America, the authors refined this divergence value to about 23,000 years for all Native Americans in the North and South of the Americas. This result induces a unique migration for the North Athabaskans and other Native Americans, followed by gene flow from Siberia. These results further suggest that the Mal'ta man came from a native population of the Athabaskans and other Native Americans.

In addition, the diCal2.0 method suggests that the Athabaskans and Karitiana of Brazil diverged about 13,000 years ago. This discrepancy probably took place in southern North America.

On the other hand, by comparing Amerindians to other populations with the D statistic, the authors have shown that certain Amerindian populations (the Aleuts, the Surui of Brazil and the Athabaskans in particular) are closer to the Australo-Melanesians. In fact, the Surui are the Native Americans closest to Australo-Melanesians and East Asians. The authors assume that this genetic influx came after the initial arrival of modern humans in America. However, the circumstances of his arrival in South America remain unclear. A route via the Aleutian Islands is being considered.

Fig. S1. Geographical locations of populations from the Americas that were analyzed in this study. See Section S1 and Tables S1, S3 and S4 for further information.

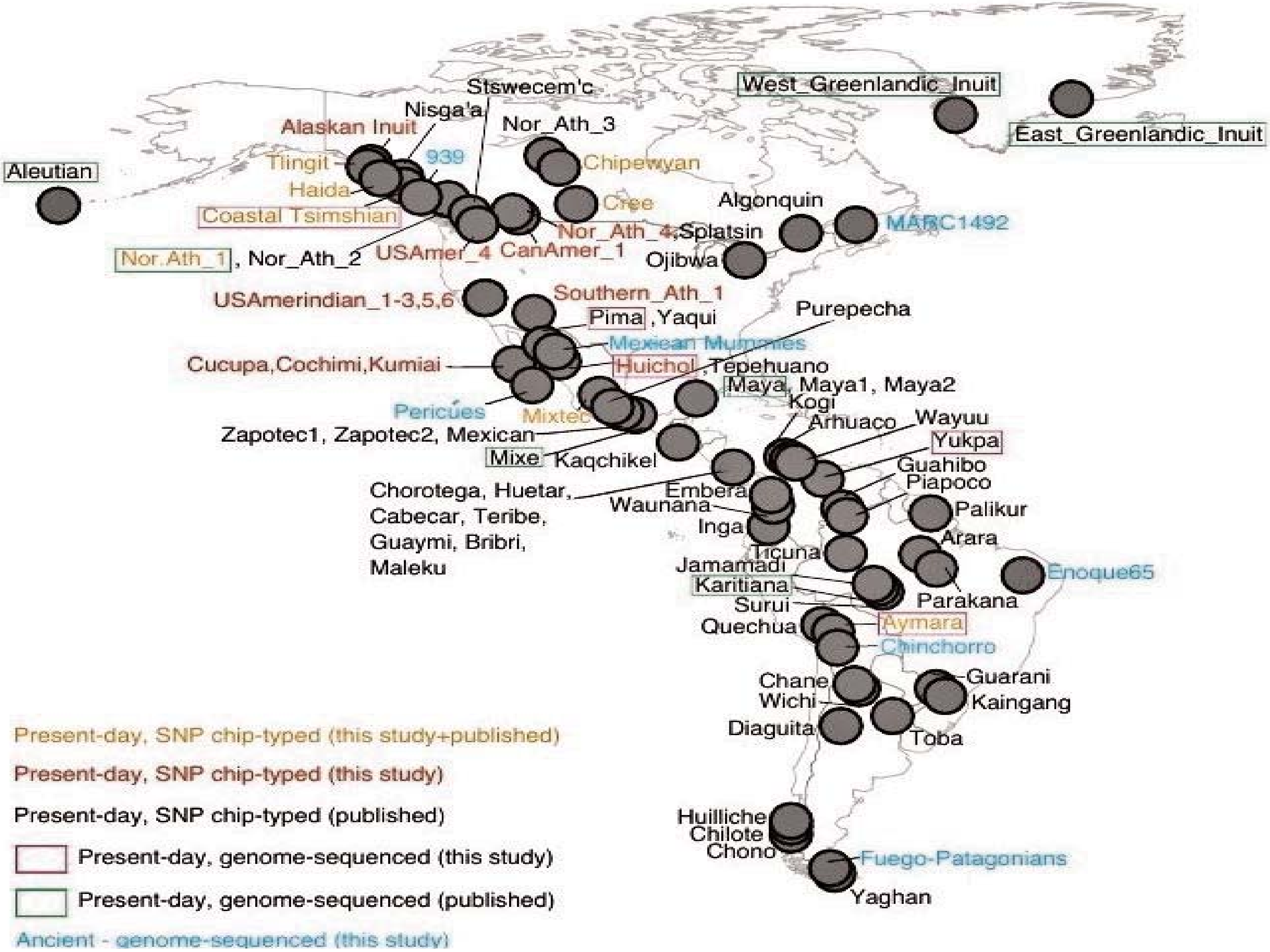
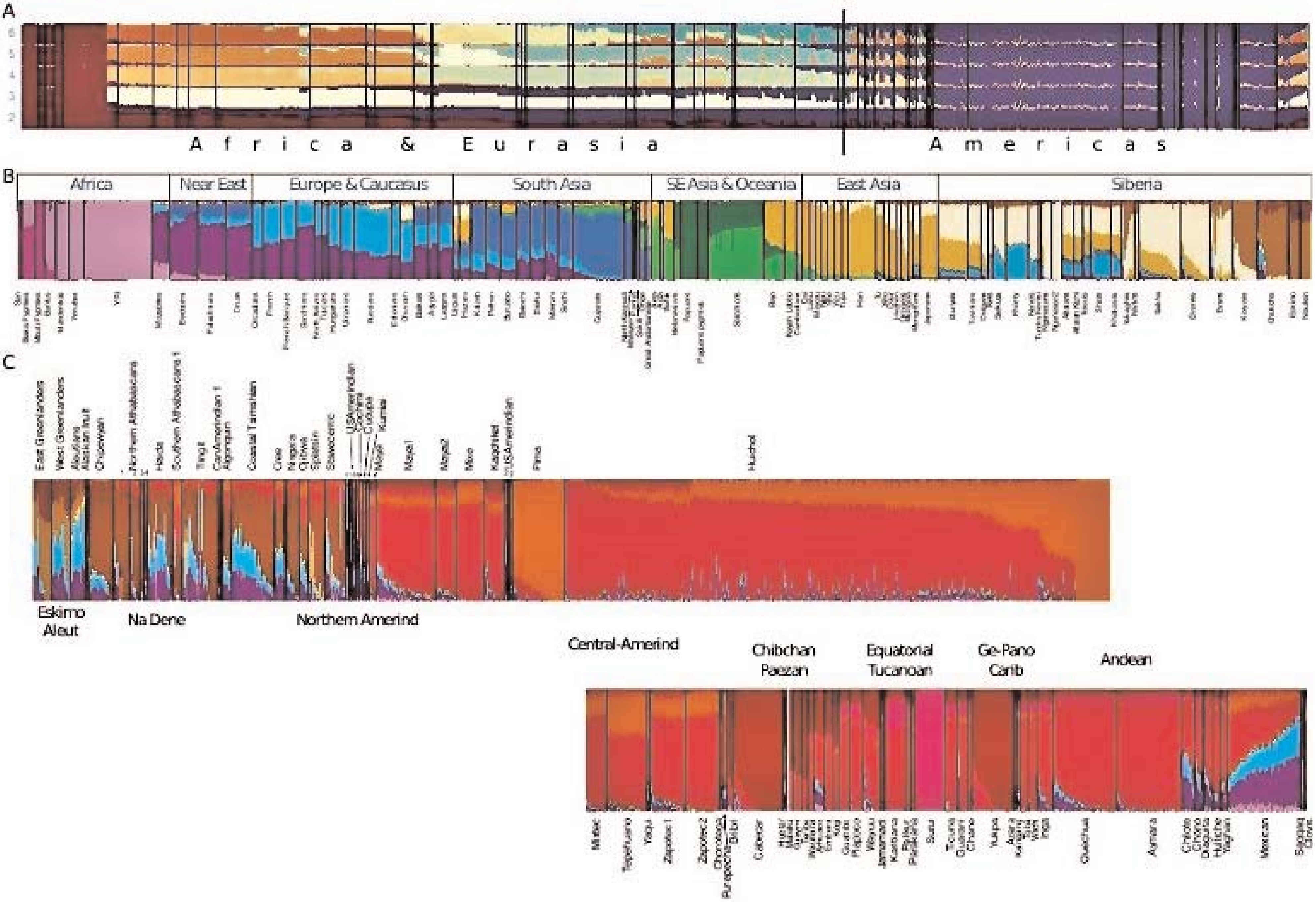
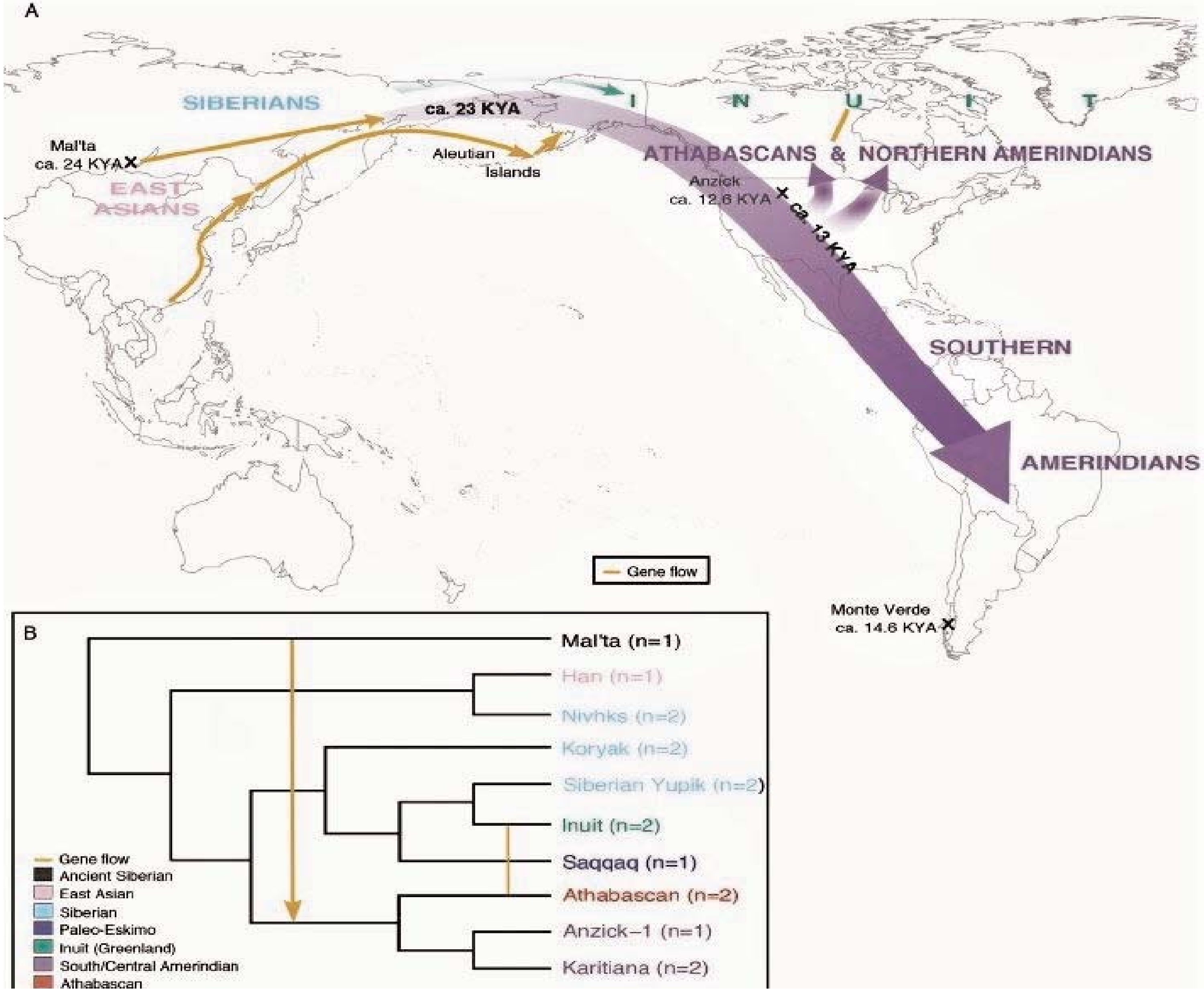


Fig. S4. Admixture proportions estimated using ADMIXTURE (*36*). Shown are plots with *K*=2-6 (**A**) and *K*=15 (**B** and **C**).



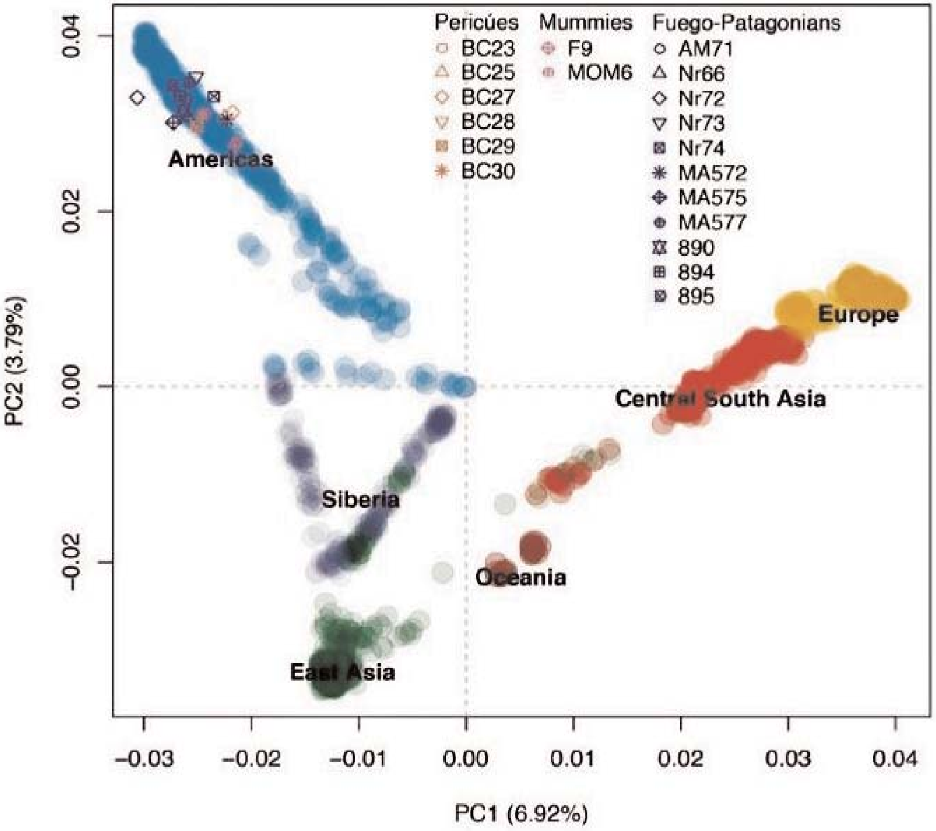
This Australo-Melanesian signal supports the Paleo-American model which, on the basis of craniometric parameters, suggests the arrival of two distinct waves in America. A first wave originating in Asia would be at the origin of the Australo-Melanesians and the first Paleo-Americans. These would then have been largely replaced by the arrival of a second wave at the origin of the vast majority of Native Americans today. The presence of these paleo-Americans is initially induced by ancient skeletons from North and South America and also by certain more recent populations such as the Pericúes of Mexico or the Patagonians of Tierra del Fuego.

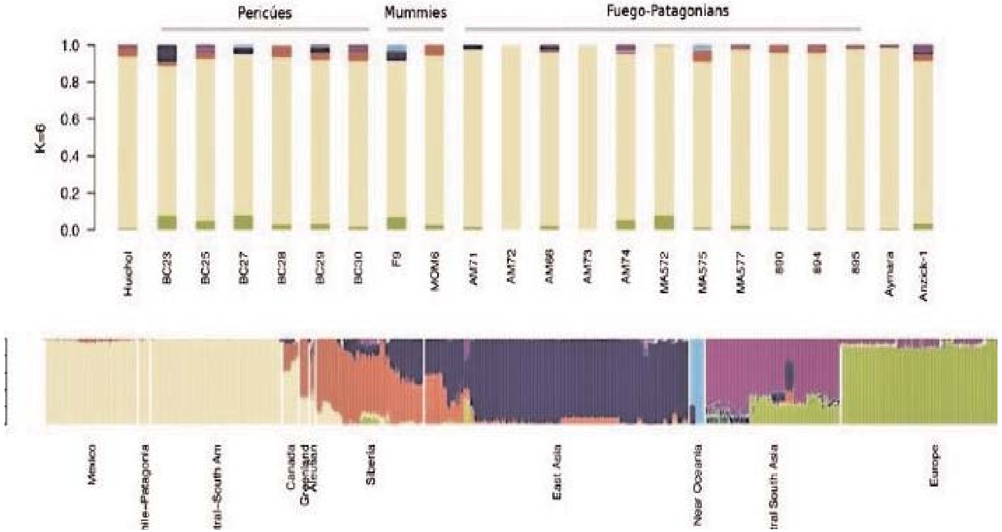
However, previous studies based on uniparental markers (mitochondrial and Y chromosome DNA) have shown that data obtained from the Pericúes of Mexico and the Patagonians of Tierra del Fuego, indicate that their haplogroups are similar to contemporary Native American populations. The authors, however, extended this research to autosomal DNA. Thus 17 ancient individuals of these populations were sequenced, as well as 2 pre-Columbian mummies from northern Mexico.



The results show that all of these ancient individuals cluster with contemporary Native American populations and are outside of the genetic variations of the Oceanians:

These results therefore invalidate the Paleo-American model and therefore suggest a single migration for all Amerindian populations, followed by several genetic influxes, including one of Australo-Melanesian affinity.

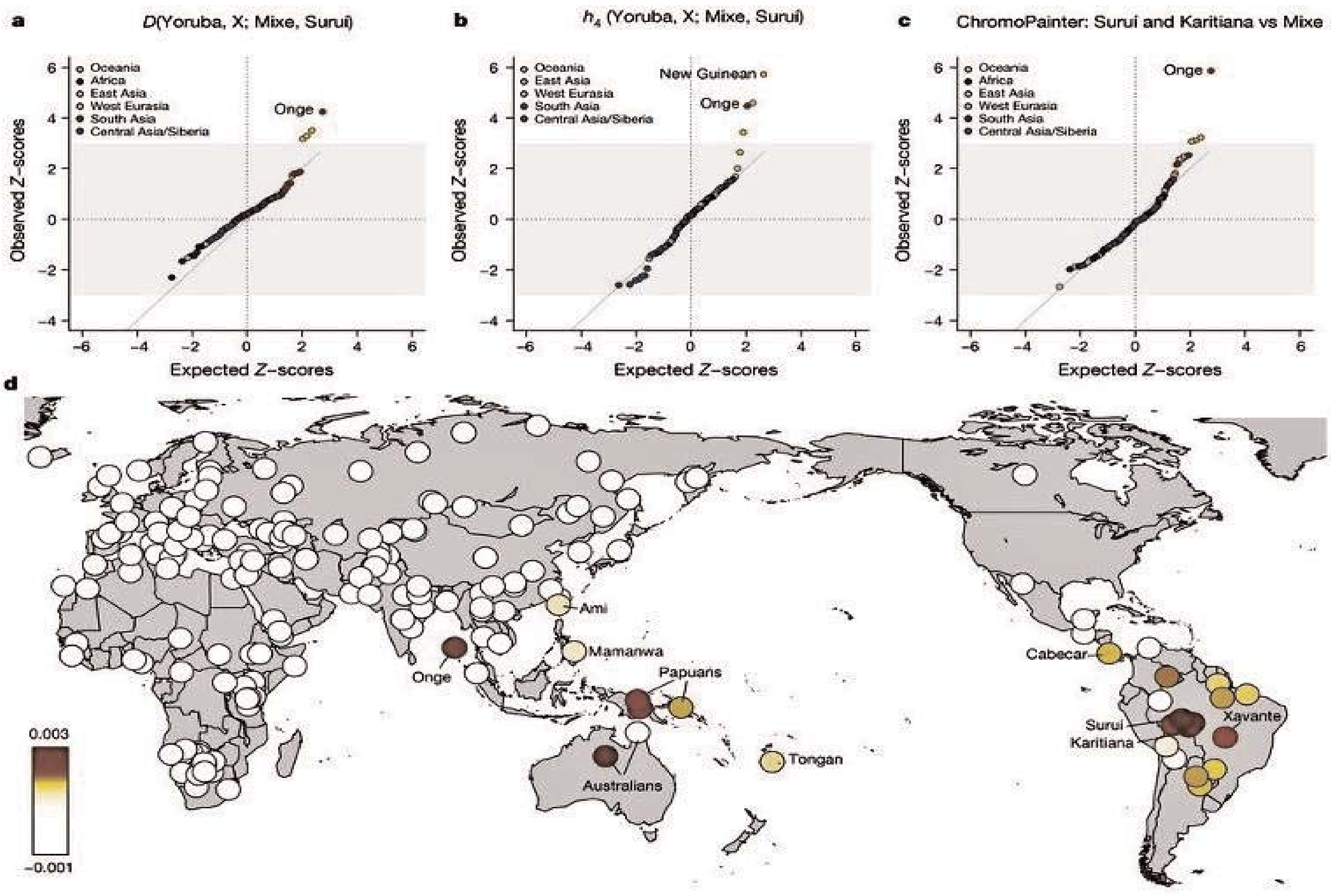




Pontus Skoglund's article

All Native Americans have their ancestors from an ancestral population that migrated across the Bering Strait from Asia over 15,000 years ago. In addition, some Arctic or North American groups have some of their ancestors from more recent migrations. The genetic study of an ancient individual from the Clovis culture dated 12,600 years ago showed that he already had this ancestral ancestry. However, the morphological characters of some American skeletons suggest that they have characteristics distinct from Native Americans of today, but more like present-day individuals from Australia or Melanesia. These characters suggested the existence of an ancestral Paleo-American population which was replaced by a second population of Siberian genetic affinity. However, the physical characteristics of the skeleton may be due not only to genetic heredity, but also to an independent convergent evolution due to environmental similarity (climate, diet, ...).

Pontus Skoglund has just published an article titled: Genetic Evidence for Two Founder Populations of the Americas. It analyzed 63 Native American individuals without European or African ancestry belonging to 21 populations. The authors then used the f4 statistic to compare Native American groups with non-American populations. The result showed that not all Native American groups descended from a single ancestral population. Thus the Surui and the Karitiana: two Amazonian groups are distinguished from the Meso-Americans, by their genetic affinity with the Australo-Melanesians (the Onge of the Andaman Islands, the Papuans of New Guinea, the Negrito Mamanwa of the Philippines and the aborigines of Australia). These results were confirmed by the D statistic. The authors then designed a new h4 statistic similar to the f4 statistic, but which replaces the allele frequencies with a linkage imbalance. This new method confirmed the genetic affinity between the Surui of the Amazon and the Australo-Melanesians. Finally, the authors used the chromosome painting method which once again confirmed the genetic affinity of the Amazonian populations with the Australo-Melanesians, unlike the populations of America. located north of Panama or west of the Andes.

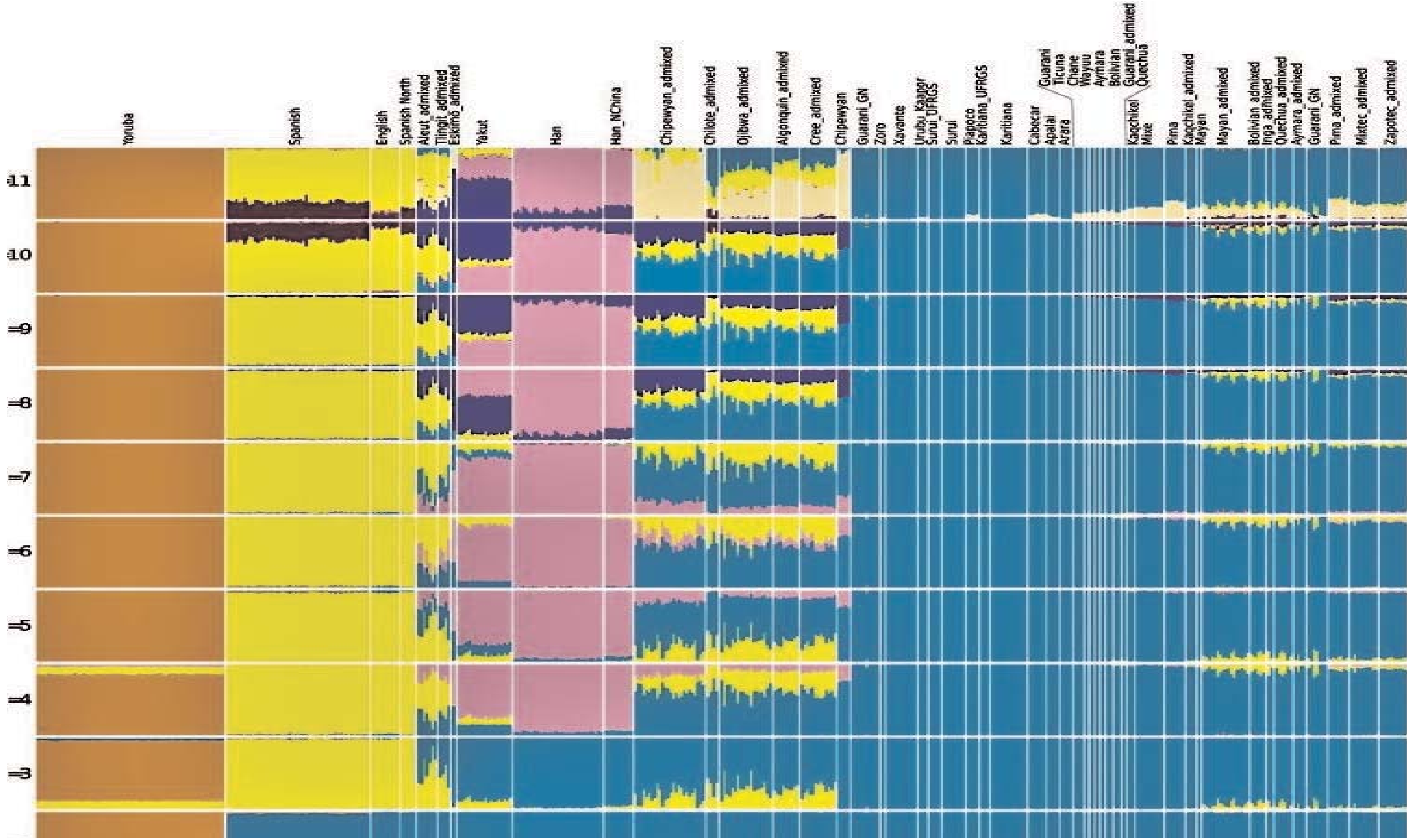


a, Quantile–quantile plot of the *Z*-scores for the *D*-statistic symmetry test for whether Mixe and Suruí share an equal rate of derived alleles with a candidate non-American population *X*, compared to the expected ranked quantiles for the same number of normally distributed values. **b**, *Z*-scores for the h_4-statistic. **c**, *Z*-scores for the ChromoPainter statistic. **d**, Heatmap of ChromoPainter statistics. For non-Americans we display the symmetry statistic *S*(non-American; Mixe, Suruí and Karitiana) for donating as many haplotypes to Mixe as to Suruí and Karitiana. For the Americas we plot *S*(Onge; Mixe, American) for receiving as many haplotypes from the Onge as do the Mixe.

The authors then tested demographic models to relate Native American ancestry to the Han Chinese and Onges of Andaman Island, incorporating the ancestry of a population of nearly 24,000 years of Maltese man. The most probable model that can explain these data is a model which assumes the existence of an initial population Y whose ancestry is close to that of the Australo-Melanesians and which contributed to the ancestry of the Amazonians.

This information makes it possible in particular to explain the craniometric parameters of certain American skeletons close to those of the Australo-Melanesian populations. These skeletons are particularly numerous in Brazil.

These results suggest that the population of America was made up of two distinct migratory waves because the arrival of population Y in America cannot be recent.



AMAZONIA

The Amazon rainforest is not as pristine as it seems. A civilization of fishermen, farmers, builders of towns and roads has long occupied the Haut-Xingu region.

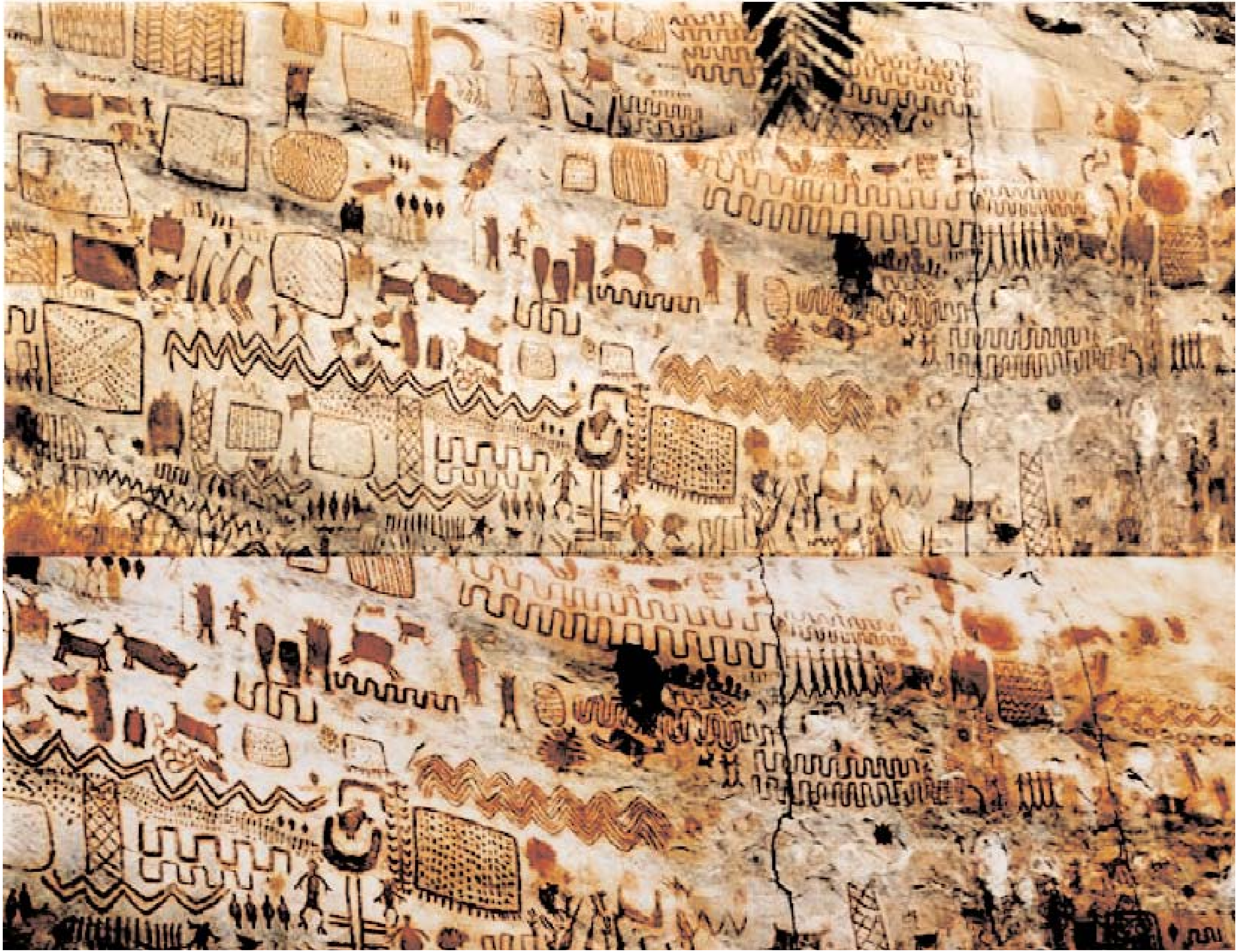
In 1961, Brazil created the Xingu Indian reserve. The area is then buried in the south of the immense Amazon rainforest, far from any modern civilization. When, in 1992, I came to live with the Kuikuro Indians, the borders of this Brazilian park were nothing more than dotted lines on maps. Today, the boundaries of the park are materialized by a wall of trees bordering a mosaic of cultivated plots. Like that of Jurassic Park marking the passage to the time of the dinosaurs, this wall of greenery seems to mark the border between the modern world, with its soybean fields, its irrigation systems, its huge trucks, and an original society in harmony with pristine nature.

Today, the green lung of the planet that is the Amazon rainforest occupies the ecological center stage. Long before that, the great forest already fascinated Westerners, who, at the mere mention of its name, imagined impenetrable jungles with lush vegetation, inextricable networks of rivers, dangerous wild fauna, Indian tribes living there. 'Stone Age… In the collective imagination, the Amazonians necessarily lived in primitive societies, content to exploit the resources of nature.

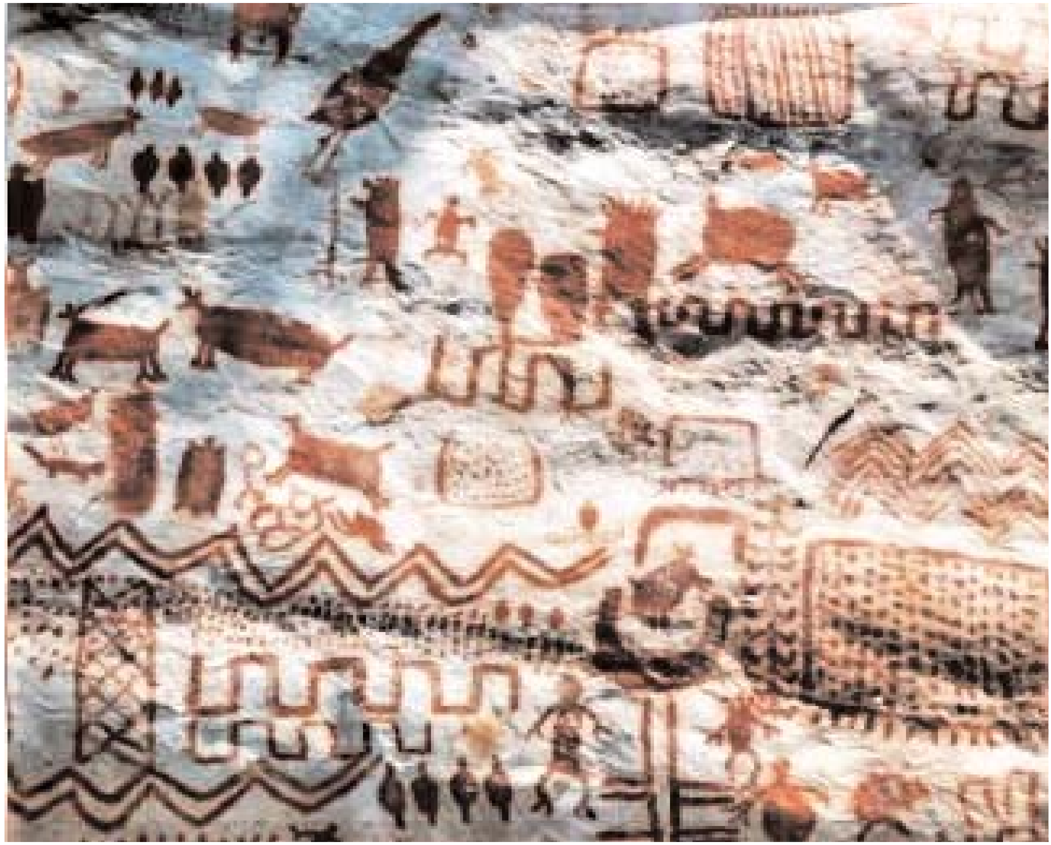
However, this is not what happened in Xingu. The Kuikuros are an important ethnic group within the Amerindian population of Xingu, a population that is referred to in Brazil by the generic term of "Xinguanos". With their help, we have brought to light a whole network of towns, villages and ancient roads, where once lived a population arguably 20 times larger than today. This civilization has disappeared, devastated by the microbes carried by the Europeans. How could she have gone unnoticed until today?

A huge 12,500-year-old fresco discovered in the Amazon
A huge "canvas" filled with drawings from the Ice Age was recently discovered in the Colombian Amazon. This "Sistine Chapel of the Ancients", as archaeologists call it, is one of the largest collections of prehistoric rock art discovered in the region.

An exceptional discovery
She had gone unnoticed the whole time, and yet. This incredible fresco indeed takes up space, spanning nearly thirteen kilometers of rocks on the hills overlooking three rock shelters in the Colombian Amazon. These drawings depict handprints, geometric designs, but also humans and animals. Among them are fish, lizards, deer, alligators, bats and even turtles.



According to the researcher, indigenous peoples probably began painting these illustrations at the archaeological site of Serranía La Lindosa, on the northern edge of the Colombian Amazon around 12,600 to 11,800 years ago (dating in part based on representations of these extinct animals towards the end of the last ice age



At that time the Amazon, which previously looked more like today's African savannah, made up mostly of thorny scrub and sparse small forests, was gradually turning into a tropical forest.

"If these large oxen are indeed mastodons, this confirms that the Amazon was populated in the era of megafauna, these large animals of the Pleistocene which became extinct during the Holocene", explains Gaspar Morcote, who also hopes to find traces of glyptodons (giant armadillos) or megatheriums (giant sloth bears).
For paleobotany specialists, the paintings certainly fascinate them, but they serve above all as an indication of where to make excavations.
Their own hobby is the microscopic elements that can be found in the soil: pollens, phytoliths, so many fingerprints that tell the story of the peoples of the forest, of climate change, of the domestication of species, of the introduction of agriculture. "We write the history of peoples without historians, we give a voice to peoples without history," exclaims paleo-anthropologist Javier Francisco Aceituno.

Still dances

The paintings, made with a mineral (mainly manganese) which has guaranteed their conservation so far, are impossible to scientifically date with carbon 14. But the remains of vegetable carbon, or the remains of seeds found at the foot of the frescoes can be, and are then associated with cultural elements such as remains of ceramic or flint instruments found in the same place.

To do this, archaeologists make meticulous excavations by scraping the earth in layers of 5 centimeters to bring to light the different geological strata, then sieve the sediments, wash them, classify them before studying them in the laboratory. Some samples from a first shipment in 2015 were dated with carbon 14 with certainty. Verdict: 12-200 years. "We're going to verify another 19,000-year-old date," Professor Morcote said hopefully.

The systematic and scientific study of these treasures of humanity has only just begun. In 1948, French explorer Alain Gheerbrant was undoubtedly one of the first to discover this "dazzling white cliff" where "animals, men and red monkeys overlapped in a palimpsest of motionless dances".

Impenetrable region

"We were in front of something completely new, absolutely original in the history of primitive arts", he adds in his book Orénoque-Amazone (Folio, 1992). In the Serrania de La Lindosa, five large frescoes have already been unearthed, but there are certainly others. "Doing archeology in the Amazon is easy," sighs Javier Francisco Aceituno. His arms are covered with bites: the day before, it took more than four hours of exhausting walking in the forest with a seasoned guide to explore a new site.A little further south of the La Lindosa massif, the Chiribiquete National Park, declared last June the world heritage of humanity, extends its mysterious 43,000 square kilometers of virgin forest, where uncontacted indigenous peoples undoubtedly still live. Thousands of other cave paintings have been discovered there. But the Colombian authorities are currently favoring the opening to the public of the Serrania de La Lindosa, declared since June a protected archaeological area, much easier to access.

The region has long remained impenetrable, the scene of the violence of the long conflict between the FARC guerrillas, the government, the paramilitaries and the narcos. It was not until the 1990s that the first scientific expeditions began, but it is especially since 2015 - the beginning of the end of the fighting with the FARC, before the historic peace agreement of November 2016 which ended a conflict. more than half a century having killed 260,000 people - that researchers can spend time there.

The first settlers arrived in San José del Guaviare, capital of the department, at the end of the 19th century, for the rubber fever. Then others joined them for the boom in tiger skins, fishing or precious woods. Then there was the golden age of marijuana in the 1970s, then the heyday of coca in the 1980s.

At each stage, the indigenous peoples of the forest - Guayavero, Nukak, Jiw - have been decimated, losing, to the rhythm of violence and deforestation, a large part of their territory and their culture. And the settlers amassed fortunes, defeats just as quickly.

Expiate his faults

One hour by track or by boat from San José del Guaviare, the village of El Raudal del Guayabero - from where we leave to see the cave paintings - is the witness of these tragic stories. Today, many peasants have destroyed - in accordance with the crop substitution program of the peace agreement - their coca crops, but the aid promised in exchange by the government is slow to arrive.

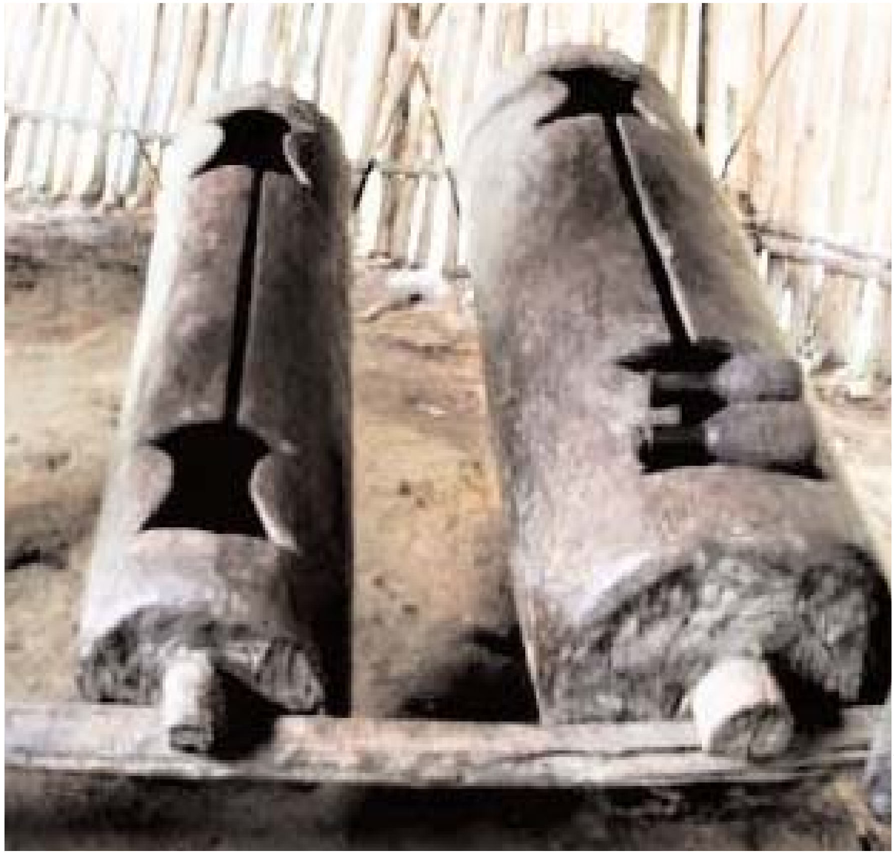
Some, in order to subsist, therefore left to replant a little further into the forest. Others are betting with hope on tourism. At Raudal del Guayabero, two modest grocery stores and a few stalls offer coffee and lunch, and several guides await visitors.

The other big question is: how did the people of the Amazon paint so high on these sheer cliffs? In some drawings, we can see some sort of ladder or scaffolding. The most logical answer for scientists. But there are many legends among the indigenous peoples. Don José, a former cocalero peasant who became one of the guides and guardians of the paintings, likes to tell this one: members of the community found guilty of certain crimes were sent to draw on these cliffs to expiate their faults. And so that they could draw so high, the shamans gave them to drink a potion that made them levitate ...

The Amazonian language of drums

In the Amazon, the language of drums allows people to speak to each other for miles. In the heart of the Amazon, the Bora populations use a drummed language to communicate over kilometers of distance.

Drum beats resonate in the heart of the Amazon. It is not always about parties or concerts, but often about a language and, behind the blows, sentences are articulated. Julien Meyer, researcher at the Université Grenoble Alpes and at the CNRS (Laboratoire Gipsa), and Frank Seifart from the linguistics department of the University of Amsterdam, co-authored with two other authors a study in the Royal Society Open Science on the drum tongue of Boras, people of northwestern Amazonia.



The language of the Bora is not unique, many drum communication systems exist across the world. "There are two types of drummed language," explains Julien Meyer. "One which is totally independent of speech, which functions like a code. For example three blows to say fish and two to say crab. Another which imitates the language, it is the case of the drummed language Bora."

Until now, the rhythmic characteristics of these languages had been little studied. "It's very hard to find a corpus large enough to fully understand all the issues," explains Julien Meyer. With only two drums to communicate, the tones do not vary much, so most of the vocabulary goes through the rhythm. "When we carefully study the rhythm of the percussions we realize that it imitates the spacing between two vowels in a word spoken in the spoken language," adds the French researcher.

Contextual language

To successfully convey these messages, the drummed version of the Boras language is a contextual language: each time of the announcement is reserved for a type of information. The first beats are used to announce what it is about (invitation, request, announcement…), then we designate the person to whom the message is addressed by playing the rhythm of their full name, finally we go to the heart of the message. "In this way, we can cover almost all subjects! We can even ask someone to take sneakers and dry them for example," explains Julien Meyer.

The language of the drums is at the heart of the organization of traditional Bora society, everyone can come and use them. Unlike whistled tongues which allow dialogue and response to one another, drummed tongues are more suitable for public announcements. In the same way that the town criers came to announce the latest news, the drums are there to be heard by all and to disseminate information as widely as possible.

There is only one pair of drums per village, one male and one female. There is only one pair of drums per village, called Manguaré, made up of a small and a large hollowed out trunk. The big one represents the female, and the cub the male.

Many myths accompany these instruments. All come together around an idea: the masculine and the feminine must combine to explain the world. A sort of allegory to explain the language. "What is very interesting is that these drums are in a particular house in each village," adds Julien Meyer. "A round wooden house with a palm roof called the Maloca. The house and the drum depend on the status of the owner. There are even small drums, a hole with two planks on which you can practice."

These languages have one goal: to convey a message as widely as possible. In the Amazon, the texts of the first explorers speak of drumming on canoes allowing tribes to advance in the jungle by announcing their arrivals. At that time, exchanges were common, and although different languages were known and widespread.

These ancient languages are gradually disappearing
These inclusive languages heard by all locally, whether articulated by drums or whistles, are also a way to communicate and organize from afar and to be understood only by initiates. "In general, we will not make a declaration of love on the drum (there are, on the other hand, love poems in whistled words), because all those who speak the language will understand it," explains Julien Meyer. "But the drummed word is rather used to warn of a danger, to announce the arrival of an important person, to place an order to someone, to send a message to a neighboring village; in short, to organize daily life and protect oneself. possible external aggressions. Unfortunately, this ancient practice of telecommunication is gradually disappearing but we were lucky to be able to study enough elements to begin to understand all its richness. "

"Their low-frequency sounds pass very well through the forest whereas one might think that the trees constitute an obstacle, continues the young linguist, co-signer of the article. The short messages thus disseminated have multiple destinations One can thus ask hunters to bring back a particular game, when they have already moved away from the village; or else signal the arrival of visitors, the occurrence of a death or - in older times - the approaching enemies. "If the drums encode lyrics, they don't do so according to Morse code, for example, which relies on the alphabet and encrypted transmissions with short or long series of pulses.

Among the Bora, the drums imitate the spoken language, using the melody of the intonations of the language (acoustic variations of bass or treble sounds). "Above all, they rely on rhythm, essential in the understanding and intelligibility of the words", specifies Julien Meyer after the analysis of 169 "dispatches". In addition, these sound missives always follow the same pattern: the first beats, given using mallets, indicate the theme of the message (invitation, party, etc.), then comes the name of the recipient and finally the message itself. same. "This system is close to that of public announcements as it was practiced in Europe with village criers", sums up the linguist. The Bora of America are the last human group on the continent to use this process, the Bora language being gradually replaced by Spanish. Similar systems are still attested in West Africa, notably in Burkina Faso, Central African Republic or Côte d'Ivoire, but also among the Chin of Burma.

THE ARCHIPELAGO OF THE GALAPAGOS

Island population

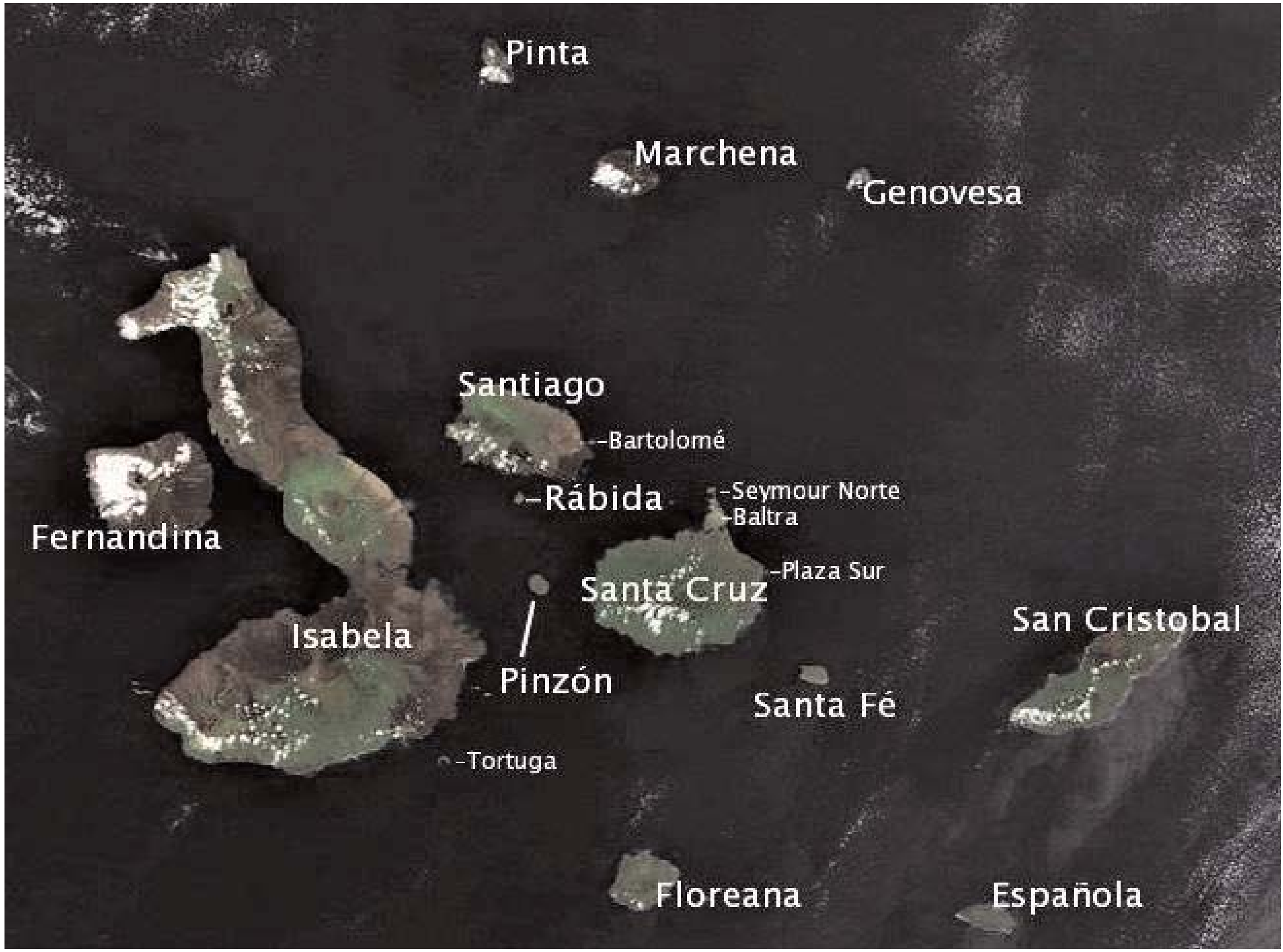
These islands were discovered on March 10, 1535 by the Dominican Tomas de Berlanga, fourth bishop of Panama. The latter had embarked for Peru in order to settle a dispute between Francisco Pizarro and his lieutenants. The winds having stopped, his ship began to drift so that his team reached the islands. some traces found in different sites suggest that South American Indians had already visited the islands before their discovery by the Spaniards.

The Galapagos Islands appeared around 1570 on the maps drawn up by Abraham Ortelius and Mercator. They were called "Insulae de los Galopegos" (Turtle Islands).
Fragments of Huancavilca pottery from the Ecuadorian coast were discovered in 1956 by Thor Heyerdahl and Arne Skjølsvold who interpreted them as of Inca origin.
Subsequently, until the beginning of the nineteenth century, they were for pirates (and later for whalers), water and supply points for turtles: a turtle survives a very long time without water or food, and therefore constitutes an appreciable reserve of fresh flesh. From this lair, pirates attacked and plundered Spanish galleons carrying gold and silver from Peru to Spain.

Ecuador officially annexed the Galapagos Islands archipelago in 1832. About a century later, the islands were only inhabited by a few settlers and were used as penal colonies (which were closed in 1959). Before the 1930s, several attempts at agricultural colonization failed due to the low number of volunteers, irregular water availability, disease and dissension.

The archipelago officially became a national park in 1959. Organized tourism began in the late 1960s; several tens of thousands of people now visit the islands each year. In 2007 the sedentary population amounted to 20,000 inhabitants concentrated in three localities (Ayora, Baquerizo Moreno and Villamil).

There are 58 species of birds, 28 of which are endemic to the archipelago: four species of mockingbirds (including the Galapagos mockingbird) and 13 species of Darwin's finches including the mangrove geospize, the Galapagos albatross, three species of bishops (Blue-footed booby, Red-footed booby and Masked booby), the Superb Frigate and thePacific frigate, the Flightless Cormorant, the Galapagos Dove and the Galapagos penguin, the only penguin to live in a hot environment, arrived (like sea lions) by the Humboldt Current.



The Galapagos hawk, the only native predator of young iguanas and turtles, is also found on the archipelago.

The Galapagos archipelago is populated by nearly 1,600 different species of insects including 300 species of beetles, 80 species of spiders, 80 species of land snails, 650 species of shells and molluscs, 120 species of crabs (including the best known are the Galapagos red crabs) and many other small animals.

The genetic history of the Andes

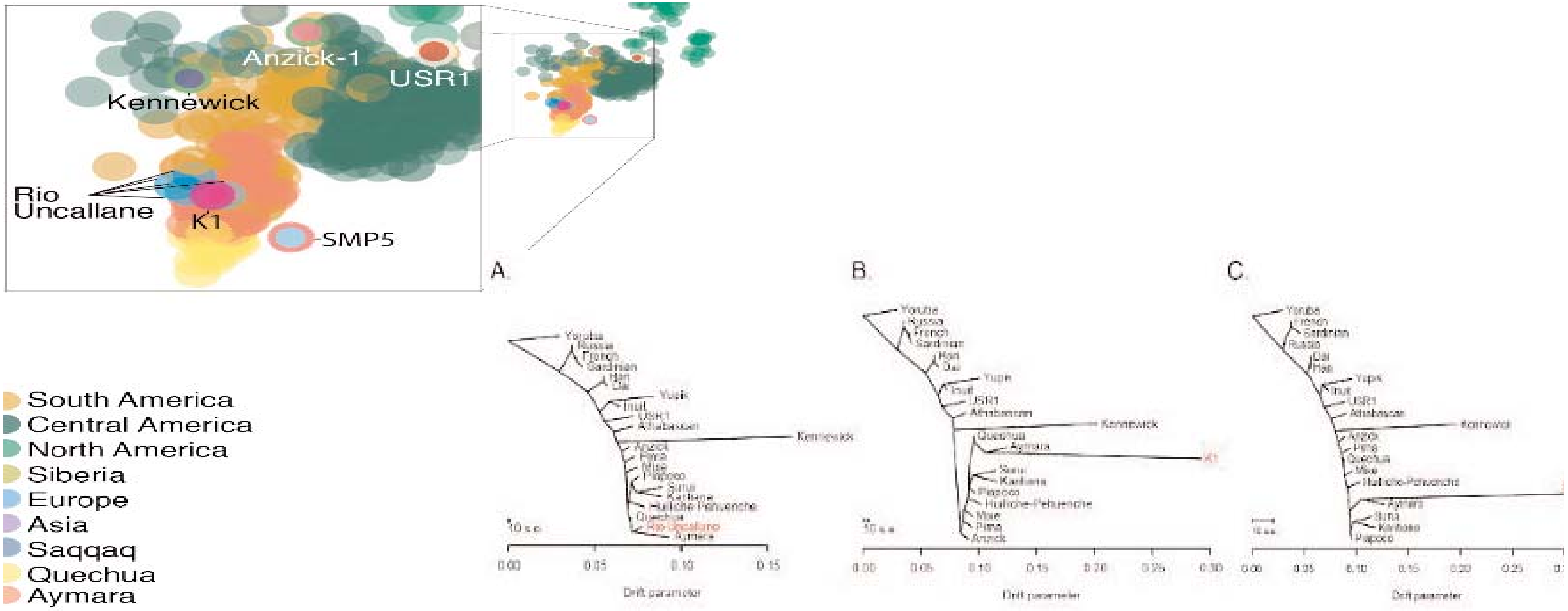
The men arrived in the Andes soon after arriving in South America. The first traces of occupation date back 12,000 years, however the permanent occupation of the region is between 9,500 to 9,000 years. Selective pressure must have been important because of the harsh environmental conditions. The first contacts with the Europeans caused many social, economic and health changes, which led to a reduction in the Amerindian population.

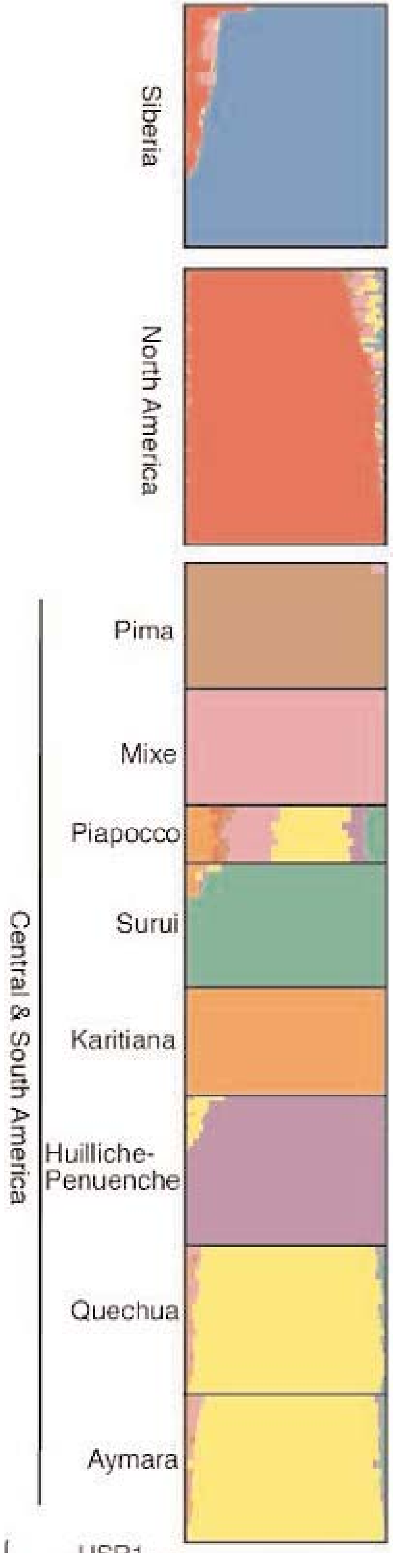
Paleo-geneticists have sequenced the DNA of seven ancient individuals from three different archaeological sites: five from Rio Uncallane dated between 1800 and 1400 years old, one from Kaillachuro (K1) dated 3800 years old and the last from Soro Mik'aya Patjxa (SMP5) dated 6,800 years ago. The authors also sequenced or genotyped the genome of two contemporary populations: 24 Aymara from Bolivia near Lake Titicaca in altitude and 39 Huilliche-Pehuenche from southern Chile. All of these individuals have less than 5% non-Native American ancestry.

The f3 statistic shows that the 7 ancient individuals of the Andes have more genetic affinity with the current Amerindians and in particular those of the Andes, than with any other population. Principal Component Analysis shows that the ancient individuals of Rio Uncallane and Kaillachuro cluster with the present populations of the Andes. The oldest SMP5 individual is located near the separation line between the Quechuas and the Aymaras:

Analysis with the TreeMix software further shows that the former individuals regroup with the Aymaras of Bolivia:

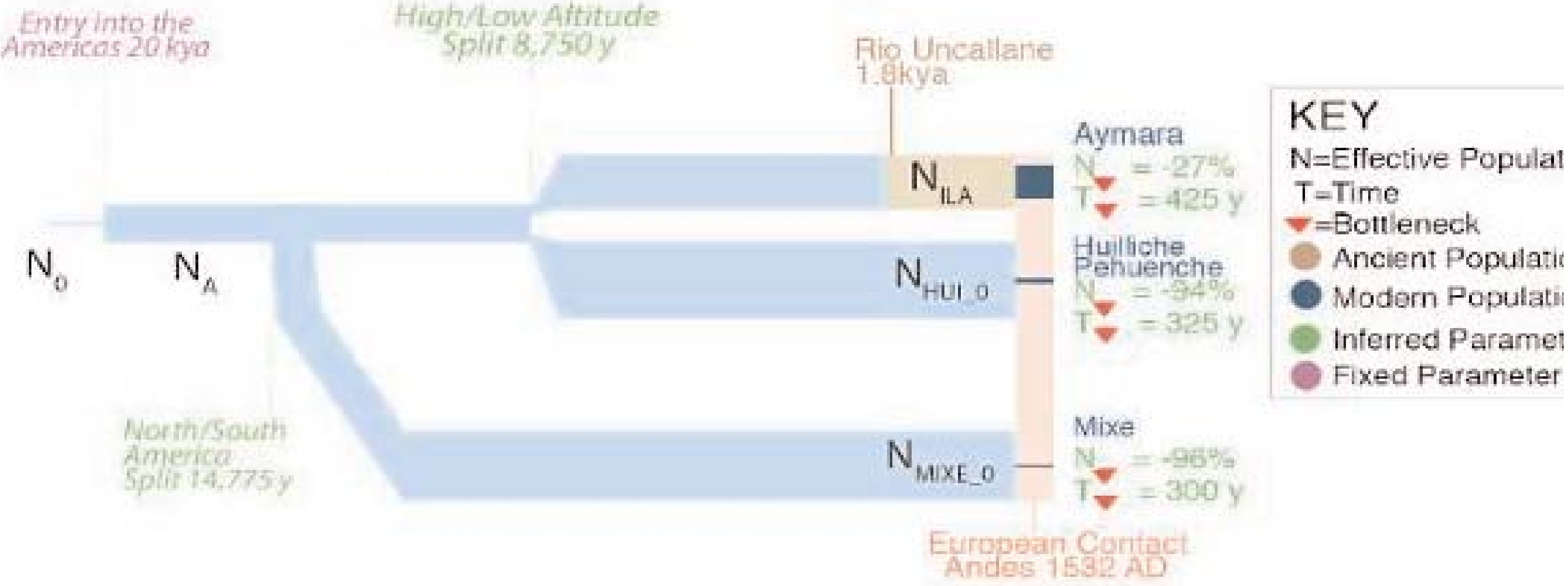
Finally, analysis with the ADMIXTURE software shows that the former individuals of Rio Uncallane and Kaillachuro have a single component (yellow) also shared by the Quechuas and the Aymaras, while the oldest individual (SMP5) has a second component (blue) found in Siberian populations:





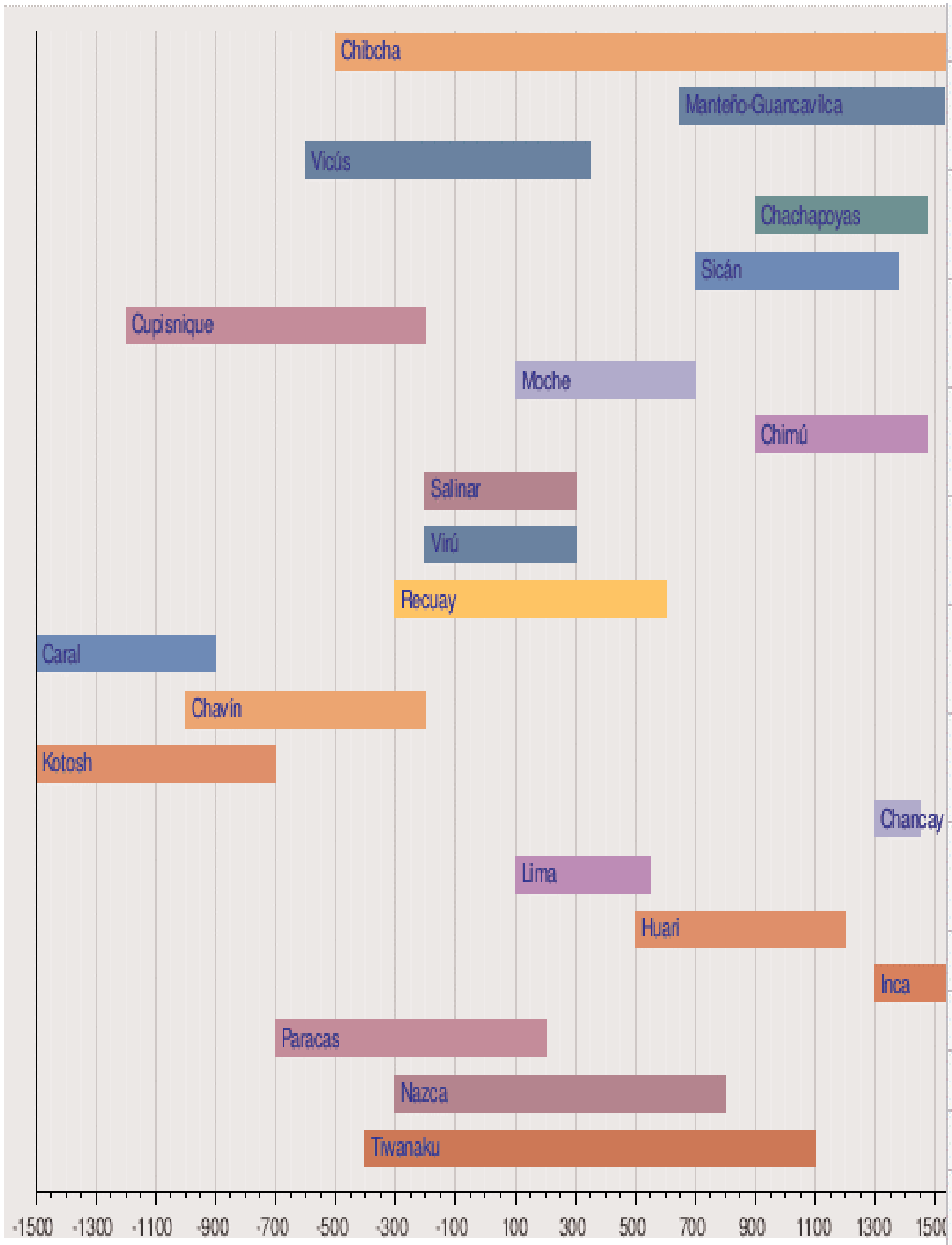
The 12,000 year old former USR1 individual in Alaska, believed to belong to a population ancestral to all South American populations, also has this blue component, as do the former North American individuals: Anzick-1, Saqqaq and Kennewick.

The authors then used the Fastsimcoal2 method to generate a demographic model:



The results indicate a separation between highland (Aymara) and lowland (Huilliche-Pehuenche) populations in the Andes around 8750 years. They also indicate a reduction in the Andean altitude population of around 27% after contact with Europeans 425 years ago. This reduction is much greater for the populations of the lowlands: 94 to 96%.

The authors then studied the impact of natural selection on Andean populations. The results show that ancient high altitude populations have a significant signal for the MGAM genes linked to starch digestion (influence of agriculture) and DST linked to a cytoskeletal protein active in neural and muscle cells. DST has been associated with hypoxic (low blood oxygen levels) conditions and cardiovascular health. In addition, two signals appear to be linked to the CD83 genes linked to the vaccinia virus used in particular in the vaccination of smallpox, and IL-36R linked to inflammation of the skin and also to the vaccinia virus.

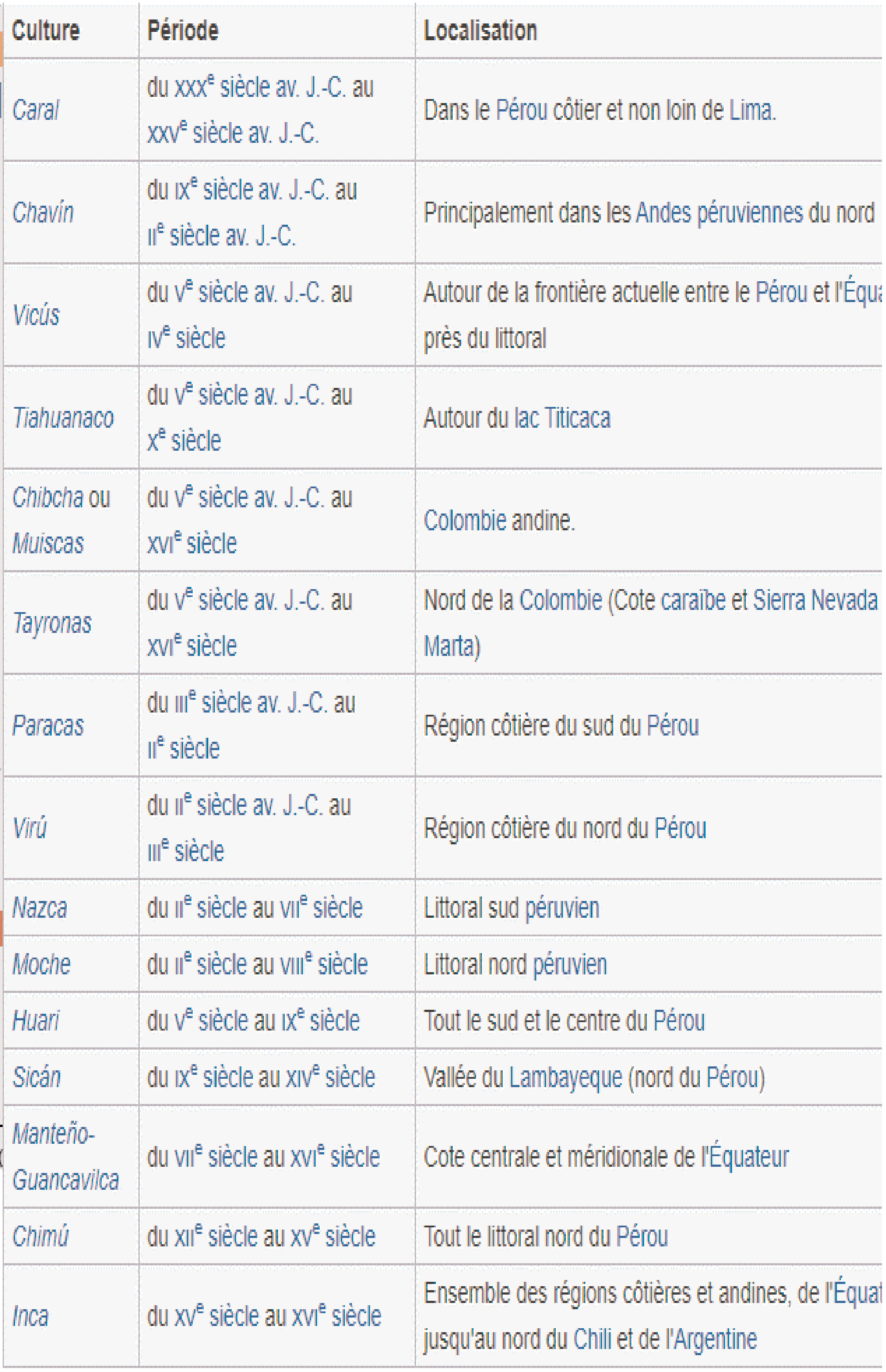


En nuances de bleus et de violets correspondent les peuples des régions côtières.

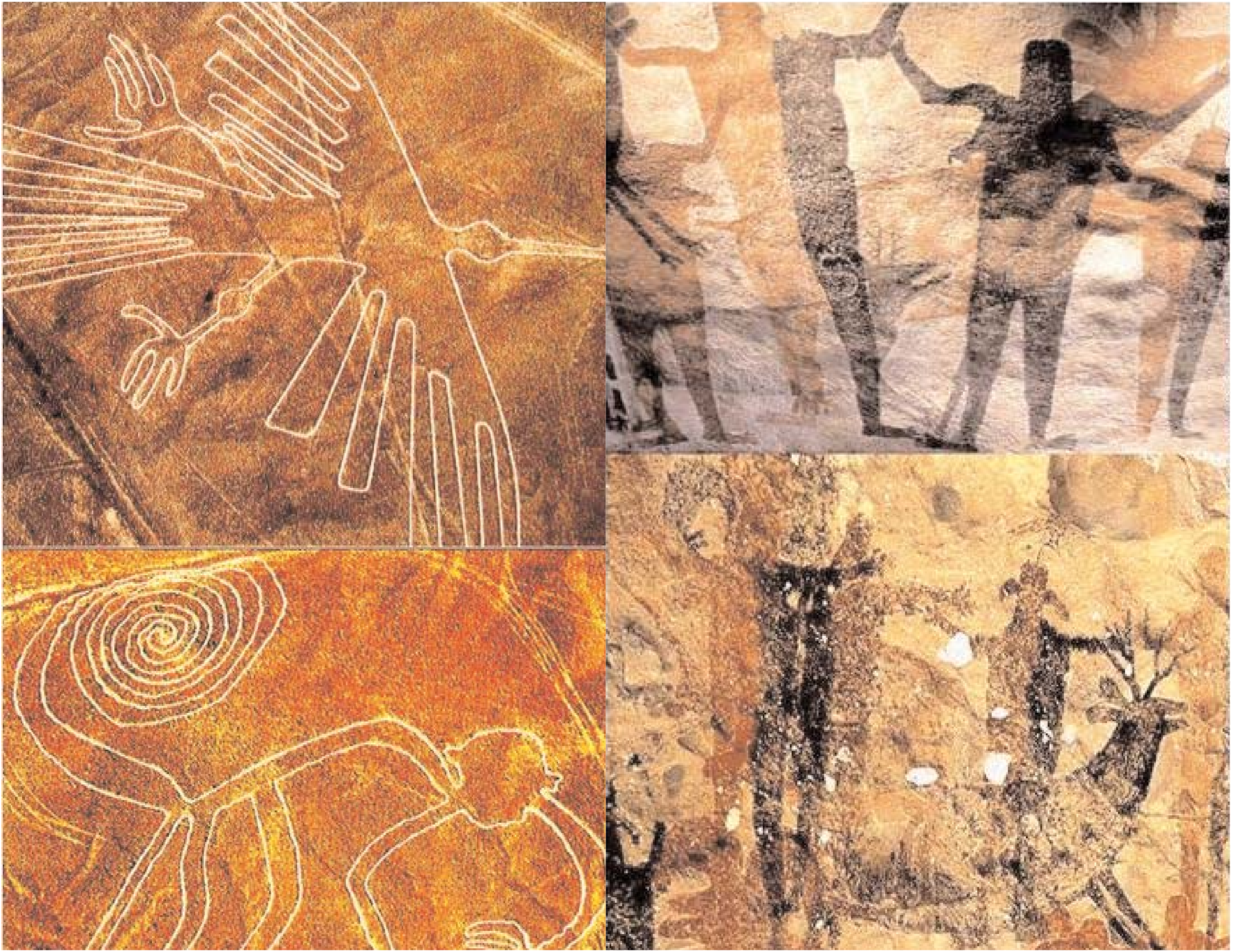
En couleurs chaudes (oranges, rouges, marrons) correspondent les peuples des régions andines.

En nuances de verts correspondent les peuples des régions amazoniennes.

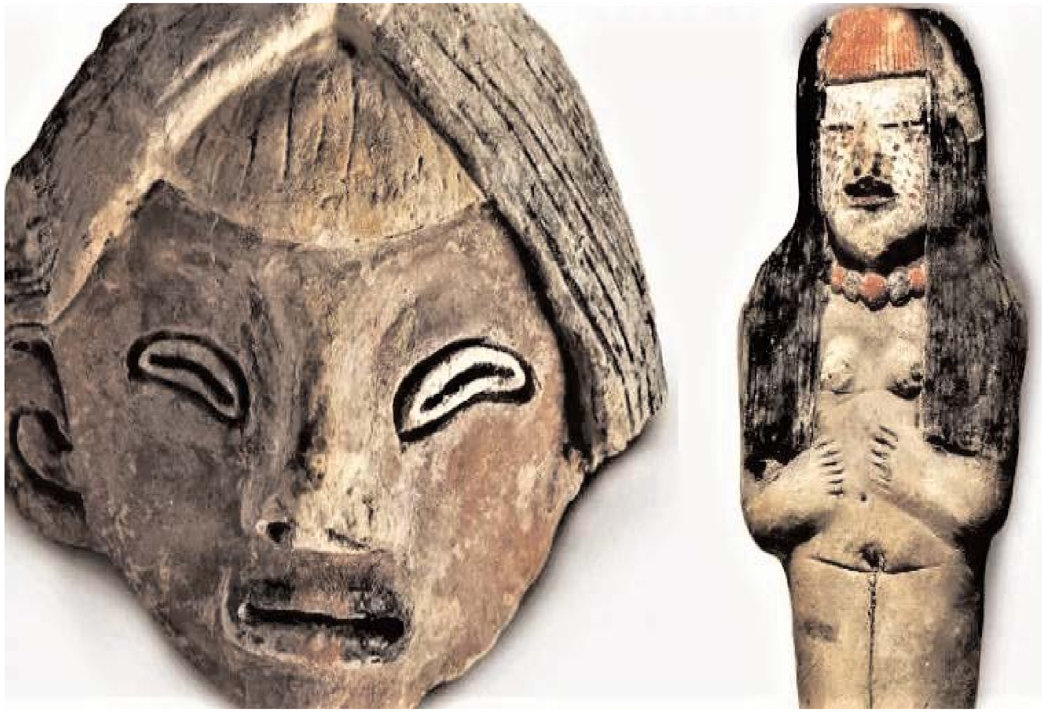
Le classement de haut en bas correspond aux localisations des cultures, du nord au sud.



Culture	Période	Localisation
Caral	du xxxe siècle av. J.-C. au xxve siècle av. J.-C.	Dans le Pérou côtier et non loin de Lima.
Chavín	du ixe siècle av. J.-C. au iie siècle av. J.-C.	Principalement dans les Andes péruviennes du nord
Vicús	du ve siècle av. J.-C. au ive siècle	Autour de la frontière actuelle entre le Pérou et l'Équa près du littoral
Tiahuanaco	du ve siècle av. J.-C. au xe siècle	Autour du lac Titicaca
Chibcha ou *Muiscas*	du ve siècle av. J.-C. au xvie siècle	Colombie andine.
Tayronas	du ve siècle av. J.-C. au xvie siècle	Nord de la Colombie (Cote caraïbe et Sierra Nevada Marta)
Paracas	du iiie siècle av. J.-C. au iie siècle	Région côtière du sud du Pérou
Virú	du iie siècle av. J.-C. au iiie siècle	Région côtière du nord du Pérou
Nazca	du iie siècle au viie siècle	Littoral sud péruvien
Moche	du iie siècle au viiie siècle	Littoral nord péruvien
Huari	du ve siècle au ixe siècle	Tout le sud et le centre du Pérou
Sicán	du ixe siècle au xive siècle	Vallée du Lambayeque (nord du Pérou)
Manteño-Guancavilca	du viie siècle au xvie siècle	Cote centrale et méridionale de l'Équateur
Chimú	du xiie siècle au xve siècle	Tout le littoral nord du Pérou
Inca	du xve siècle au xvie siècle	Ensemble des régions côtières et andines, de l'Équat jusqu'au nord du Chili et de l'Argentine



CARAL CIVILISATION



The Caral civilization emerged around 5,000 years ago and was a complex pre-Columbian society that included thirty major population centers on the northern coast of Peru. Caral's society thrived around a complex trading economy, focused on bartering with coastal fishermen with whom they traded fishing nets woven from the cotton they produced for fish. It is the oldest known civilization in America that left behind an impressive architecture comprising pyramids and amphitheatres.

Researchers have found pre-Columbian figurines at the archaeological site of Vichama belonging to the ancient civilization of Caral. It is a historic discovery. Statuettes 3800 years old and dating from the pre-Columbian era were found inside a basket of reeds tied with cotton threads near the ruins of a building at the archaeological site. Located on the Peruvian coast, near the village of Vegueta, 130 km north of Lima, this site belongs to the cultural ensemble of the Caral civilization, declared Cultural Heritage of Peru in 2008.

According to the Peruvian ministry, the anthropomorphic sculptures were probably used in religious rituals. The mud statuettes represent a naked man and woman painted in white, red and black, representing the nobility of the time. A second woman with 28 fingers is covered in white paint with red dots symbolizing a priestess.

The research team, led by archaeologist Ruth Shady, also unearthed two muddy female heads wrapped in cloth covered in yellow, blue and orange feathers.

THE PACHACAMAC SITE

The site of Pachacamac is a very important site for Latin American archeology ", explains the Belgian archaeologist." It has known several occupations. The Incas had made it a high place of pilgrimage, but the mummy discovered is earlier. It belongs to the Ychsma populations between the 10th and 15th centuries. "The Ychsma civilization is gradually beginning to unfold. Their territory, mainly coastal, was not very large, just the size of Belgium. Incomparable with the 'Inca Empire which will come after. This civilization nevertheless left behind several architectural traces and particularly ramp pyramids, typical of its culture. "It is very difficult to succeed in understanding their organization, because the Ychsma did not master the writing, and we are therefore still in prehistory ", specifies Peter Eeckhout." There was surely no state organization, but all the same a form of succession to power.

In the 15th century, the Ychsmas were conquered by the Incas. "There is no replacement of one people by another", explains Peter Eeckhout. "There was assimilation and during the Inca period, we still find Ychsmas cultural traits." The Incas made Pachacamac a high place of pilgrimage by building there a temple of water and healers, instead of a Ychsma cemetery.

Archaeologists have unearthed many offerings, such as spondyla shells, imported from Ecuador. Associated with the arrival of the waters during El Niño, they symbolized, by extension, fertility, fecundity and abundance. In addition to this temple, two other buildings are studied by archaeologists. The first is an Inca monument dedicated to welcoming pilgrims and to rituals. The second is undoubtedly one of the "chapels for foreign pilgrims", already mentioned in the 17th century by the Spanish monk Antonio de la Calancha in his description of the site. "The deities and their cult played a key role in pre-Columbian societies," continues Peter Eeckhout, "the Incas understood this perfectly and integrated this into the exercise of their power. Promote great cults common to all citizens of the world. 'Empire helped to create a true identity among the mosaic of peoples who made it up. Pachacamac is one of the best examples. "

Pachacamac, famous god venerated by the Incas in his dedicated temple, was represented by a statue of more than two meters in carved wood and colored in red, yellow and white.

The god Pachacamac

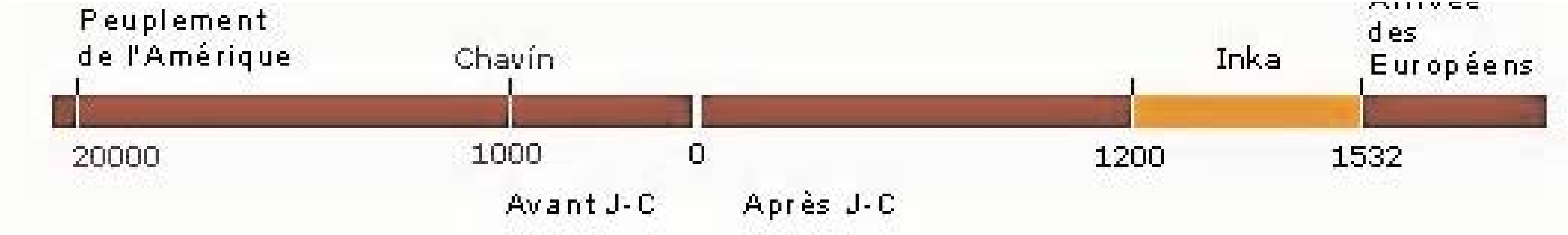
Born from the union between the Sun and the Moon, the god Pachacamac founded according to Inca mythology the peoples established along the coasts of Peru. Following the creation of the first Men by the god Kon, Pachacamac took power and transformed all humans into ape, before shaping the first two representatives of the new humanity, a man and a woman, without giving them anything to eat.

Succumbing to hunger, the man died, leaving alone the woman who soon after gave birth to the son given to him by the Sun by fertilizing her, a child who taught him the nutritional benefits of wild plants that abounded in the environment. Furious that the woman had worshiped the Sun rather than him, Pachacamac killed the child whose body became fertile ground, dedicated to the cultivation of corn and all the plants that we cultivate today.

Incas

Chavin

Historians assume that the Chavin culture manifested itself around the year 1000 BC. AD and was controlled by priests and high dignitaries who lived underground pyramids. The Chavin culture disappeared around the year 200 BC, taking away all its secrets. Today, archaeologists are working to decipher these enigmatic symbols carved in stone



The Incas were originally a small warrior tribe that resided in a plateau region south of the Cordillera Central in Peru. Inca (Quechua inka, "Son of the Sun"), name of the rulers of the Quechua people, in Peru (valley of Cuzco), who established an empire on the Andes mountain range (South America) from the mid-15th century to the Spanish conquest in 1532. The term also designates the population of this kingdom, as well as those who were subjected to it.

In the 12th century, they began to move to the valley of Cuzco, where they subdued neighboring peoples and imposed tribute on them for three centuries. It was not until the middle of the 15th century that the Incas began to consolidate and extend their domination over the region. Before that date, their greatest advance had brought them about 30 km south of the capital Cuzco, during the reign of the sixth Inca emperor Roca, who lived in the 14th century. The expansion began in earnest during the reign of the eighth emperor, Viracocha, who lived in the early 15th century. However, the empire reached its maximum extent during the reign of Túpac's son, Huayna Cápac (c. 1493-1525). In 1525, the territory controlled by the Incas included the southernmost part of Colombia, Ecuador and Peru, up to Bolivia including part of Argentina and northern Chile. The empire stretched nearly 3,500 km from north to south and 800 km from east to west. It is estimated that the number of inhabitants of this immense region, coming from very diverse populations, was of the order of 2.5 to 16 million.

Huayna Cápac died in 1525 without having appointed his successor, which led to the division of the empire. It was at this critical moment that the Spanish conquistador Francisco Pizarro landed on the coast accompanied by a troop of about 180 men equipped with firearms.

At the height of their power, the Incas had developed an administrative and political system unparalleled among Amerindian societies. The Inca state was an agriculture-based theocracy, organized under a rigid caste system and dominated by the all-powerful Inca who was worshiped as equal to a living god. Below the Inca, in descending order of rank and power, were the royal family and the aristocracy, the imperial administrators and the gentry, then the great mass of artisans and farmers.

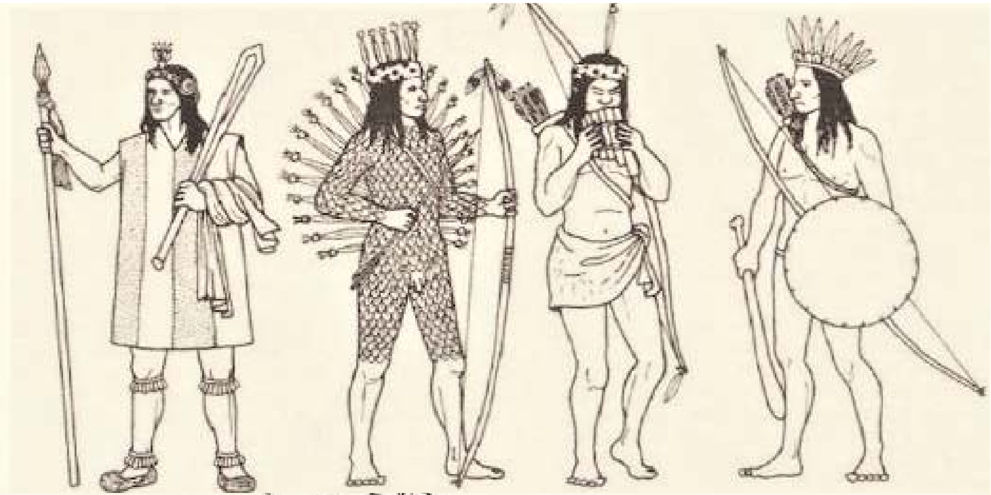
Administratively, the empire was divided into four major regions. These regions were further subdivided into provinces and various other lesser socio-economic units, the smallest of which was extended family ownership, known as ayllu. The cultivation of the "ayllus" - practically self-sufficient - was strictly controlled by the state.

INCAS TERRITORY

If the Quechua-Inca language has known such a rapid era of expansion, it is because the Inca state encompassed a vast area which stretched almost over the entire length of 3,500 miles of the Andes. This area included not only the western two-thirds of modern Peru, but also western Bolivia, most of Ecuador, a strip of northwestern Argentina, northern Chile, and possibly even a small part of southern Colombia. The growth of the Inca Empire was achieved by what described as "carrot and stick" diplomacy, which involved sending ambassadors to the regions the Incas intended to conquer, whose work was to point out to the enemy all the advantages of voluntarily being part of the Inca domain. If this well-honed cajoling did not succeed in peaceful submission then the Incas would go on the attack, the result of which was practically inevitable. The Inca Empire reached its peak under Huayna Cápac (1493-1527).

The state was divided into four major provinces or districts of Antisuyu in the east, Cuntisuyu in the west, Chinchasuyu in the north, and Collasuyu in the south, all respectively named after one of the main tribes living in these directions at from the capital of the country, Cuzco as the center of the Empire. All alike were referred to as "Incas" by later historians, and their country thus since became known as the Inca Empire but to the Indians themselves it was simply Tawantinsuyu, 'the land of the four quarters', integrated state. under the Quechua ruler, the Sapa Inca.

Each of these was administered by an Apu, usually a close relation of the Sapa Inca. The empire also contained four linguistic groups, made up of the Quechua themselves, the coastal Chimu, the Aymara in the south and the Uru in the north, but under the Incas all were obliged to speak Quechua. Inca society was organized on a decimal basis for administrative purposes, with each of the country's four quarters being divided into smaller provinces of 10,000 households, these in turn into groups of 1,000 households, and so on. The overall population of the Inca Empire in the 16th century is unknown, it was estimated between two and ten million.



The close control exercised by the imperial administrators over the empire, which went so far as to move entire populations and settle them in a new region for economic or political reasons, was largely made possible by this system of communications of remarkable efficiency.

The Inca Empire, one of the most bureaucratized civilizations, however, did not have writing. Its officials used instead a system based on knots of different kinds of wool in different colors. The resulting messages or "quipus" were used to record all goods entering or leaving state warehouses. They could only be set or decoded by trained administrators. Most of the quipus were simple accounting reports, using the decimal system. Others apparently served as aids to remember or tell religious stories and formulas, and are now indecipherable.

The government of Cuzco nevertheless managed to keep in close contact with the course of the affairs of the empire thanks to a very elaborate organization. A complex network of paved roads that linked all regions of the empire accelerated communications; trained runners taking turns could cover up to 400 km per day following these routes.

The Inca roads linked the lands of their vast kingdom, the Incas were based on an exceptional road network. More than 25,000 kilometers of royal roads, used only by official travelers, allowed rapid and safe communication with the center of Cuzco. Without this infrastructure, the huge and complex Inca state would have collapsed. The roads were designed for use by pedestrians and caravans of llamas. State hostels were found every 20 kilometers or so. This infrastructure is amazing because the Incas did not know the wheel.

The most impressive achievements of the Inca civilization were the temples, the palaces and the fortresses placed in strategic places, like Machu Picchu; immense buildings with precisely adjusted masonry, notably the great temple of the Sun in Cuzco, were built with limited techniques and tools.

The buildings are built using the "pirca" technique; it consists of setting stones in a mud mortar. The Incas beat several sumptuous residences not far from Cuzco according to a grandiose plan carried out by King Pachacuctec.

Cuzco the ancient capital of the Inca Empire is shaped like a puma symbolizing strength and power. The city of Machu Picchu which was discovered in 1911. It is located at an altitude of 2000 m, it is surrounded by agricultural terraces; the Andennes, patiently built by the Inca peasants. They grew potatoes and corn.

Other exceptional achievements include the construction of suspended rope bridges (some exceeding 100 m in length), irrigation canals and aqueducts. Bronze (an alloy of copper and tin) was very often used for tools and ornaments.

These works were carried out by the unlimited labor force of the empire under the "mita"; compulsory labor due to the state. This ambitious monarch: King Pachacutec had the surrounding countryside landscaped with terraces, with kilometers of irrigation canals for cultivation, which increased the king's wealth.

Thanks to the enormous troops they could mobilize, often several hundred thousand men, and to the quality of their short and long range weapons; the Incas had, before the arrival of the Spaniards, the most formidable army in pre-Columbian America. It is only made up of called between 20 and 25 years old. This well organized force benefited from an efficient communication and supply infrastructure. Travel was carried out on a network of roads of several thousand kilometers lined with shops filled with clothing, food and weapons of all kinds.

Qui a bien pu découvrir le Machu Picchu ?

On July 24, 1911, after a long walk in the Peruvian rainforest, American explorer Hiram Bingham discovered the Inca sanctuary of Machu Picchu. His photos were the subject of an entire issue of National Geographic in 1913 and Bingham became famous. However, he feared already at the time to have been beaten. "Machu Picchu discovered a century before? Bingham got it right: in 2008, Paolo Greer, explorer of the Cuzco region and tireless examiner of the Peruvian archives, revealed that the first discoverer was in fact the German Augusto Berns. This prospector of mines worked from the years 1860-1870 in the region of Cuzco, where he owned a vast land encompassing Machu Picchu, clearly identified on one of his maps! His archives even show that in 1887 he obtained the authorization of the government of 'operate an Inca huaca, that is to say a sacred place. Most likely Machu Picchu. Because in reality, Machu Picchu was never completely lost: already in 1843, the place appeared on the maps of the German Herman Gohring. With the possible exception of a mine prospector, no one in Cuzco had seen the ruins of Machu Picchu or perceived their importance, "he wrote in 1922.

An archaeologist, him? never ! Hiram Bingham prides himself on being an explorer, a real one, engaged in a noble quest: to find the last city occupied by the Incas, before the Spanish conquistadors brought down their empire in the 16th century. On July 24, 1911, in the jungle of Peru, this 36-year-old former soldier hits the mark. After six days of walking, the lost city of Machu Picchu - "the old mountain" in the Quechua language - is offered to him. Vegetation has spread to the 172 buildings that make up the whole and the hundreds of granite stairs cascading down the mountainside. Bingham holds his holy grail! Perched at an altitude of 2,400 meters, above the sacred valley of Urubamba, 120 kilometers from Cuzco, Machu Picchu covers a ten hectare plateau. The city surprises with its walls made of large stones assembled without mortar, according to a technique well mastered by the Incas. The site consists of some 200 buildings and is divided into two parts: the upper and the lower town. We discover terraces intended for agricultural work. The city was crossed by irrigation canals. to begin with, with these immense terraces (also called andenes) intended for the cultivation of potatoes or corn for example. The Inca civilization knew how to work the land and make it fertile for many years. A garden of medicinal plants has been set up in the heart of dwellings of the city, in which we find in particular the essential coca leaves.

Note that among these terraces, some were used to fight against mountain erosion.

Machu Picchu is a testament to the power and ingenuity of the Inca Empire. Built without the use of mortar, metal tools or a wheel, Machu Picchu stands as an archaeological wonder of the ancient world. Built around 1450, shortly before the arrival of the Spaniards, to serve as a resting place for Emperor Pachacutec (1438-1471) and his family, far from the tumult of the capital Cuzco, it would have housed a maximum of 600 people. .

Because the emperor is also a religious leader (the son of the Sun), religion is inseparable from his residences and we identify in Machu Picchu buildings that were to be used for religious rites.
As proof, their cult of the sun with several places that were built in his honor: the Sun Gate (Inti Punku), which overlooks the city, or the Sun Temple, in the heart of Machu Picchu. because on June 21, the sun strikes a rock with three descending steps on each side, then a shadow appears on the ground which forms the chacana, the Andean cross. An astronomical observatory has also been built.

His photographic report, published by the National Geographic magazine, would bring Machu Picchu worldwide notoriety and make it - in a somewhat excessive way - the symbol of the greatness of pre-Columbian Peru. He returned to the United States with a fixed idea: to seduce investors and finance other expeditions. That he knows how to do. Before the National Geographic Society (NGS) research committee, he emphasizes the unique natural setting in which these ruins are located. They "are perched on top of a narrow ledge in the most inaccessible corner of the most inaccessible part of the Andes," he enthuses. He promises to bring back "the gold of the Andes" and ancient secrets. Mission accomplished: NGS and Yale University are each granting him $ 10,000!

The adventurer will make three expeditions until 1915. In passing, he steals thousands of artifacts that Yale will take nearly a hundred years to return to Peru. Drawing on the work of his team, experts will spread the idea that parts of Machu Picchu are 6,000 years old - 1,000 older than Babylon. How wrong they were! We know today that the site was not occupied until the middle of the 15th century. Less than a century after its founding, a civil war tears the Incas apart. The Spanish conquistadors bring down their empire, and the site, which contains no gold, no longer interests the conquerors. No matter the approximations - remember, Binhgam is not an archaeologist! -, the wonder of the Andes brought him glory. If Bingham is not the discoverer of Machu Picchu, he was nevertheless the person who highlighted it, in particular by clearing it from the vegetation. And he thus contributed to the birth of a myth.

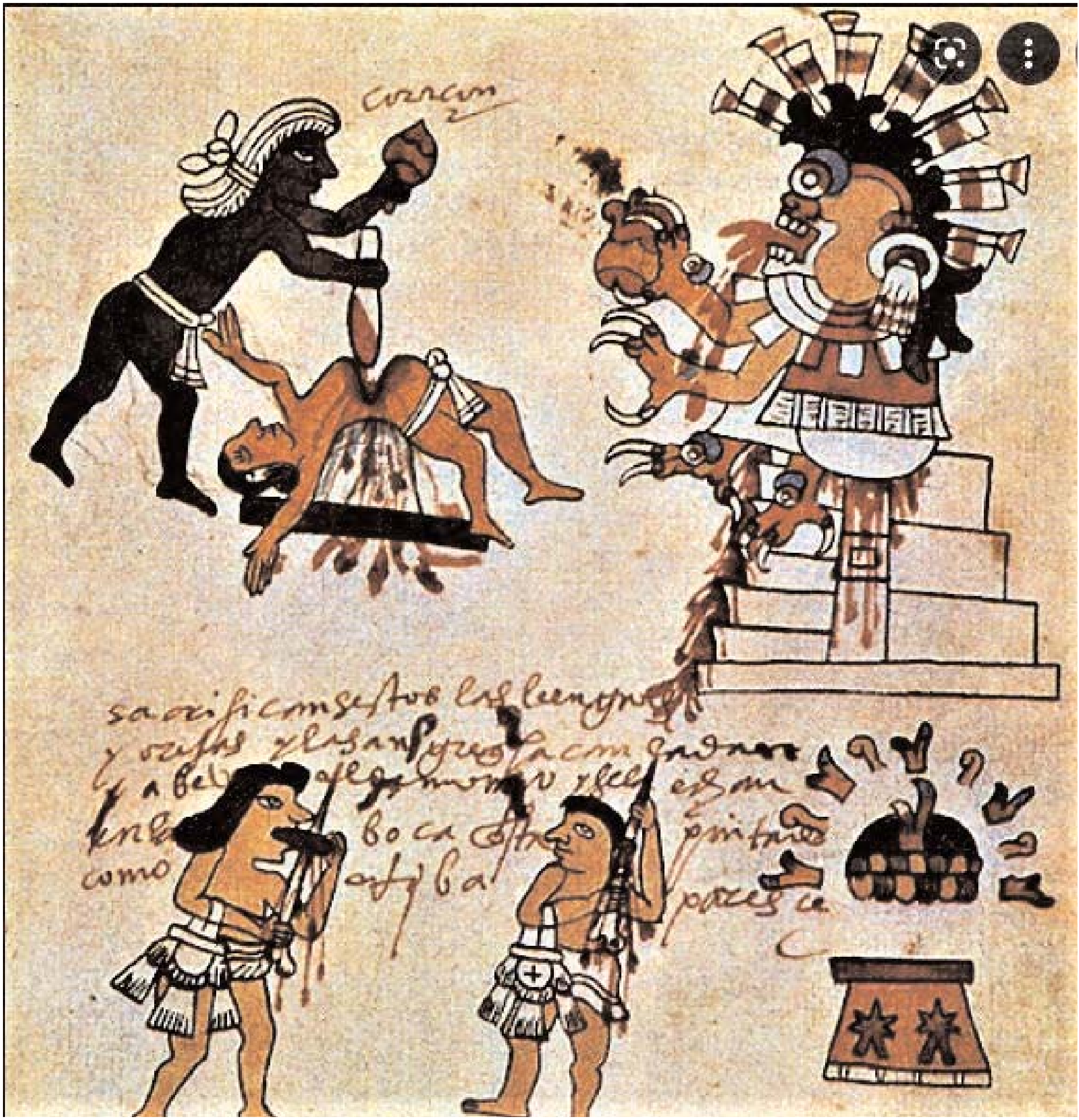
Huanchaquito site

Macabre discovery in Peru. In August 2019, a team of researchers unearthed 227 child skeletons of the Chimú civilization, at the archaeological site of Huanchaco, 700 km north of Lima. Already, a few months earlier, a few kilometers away, on the Huanchaquito site, a similar mass grave had been found. But what happened to them?

A first mass grave discovered on the Huanchaquito site

It all started in 2011 in Huanchaquito. The children of a restaurateur notice a strange black tuft emerging from the sand, about 300 meters from the Pacific Ocean. Their father approaches, digs and unearths… hair, skulls, bones in great quantity! He warns the archaeologists. Then began an investigation that will spread over eight years and three series of excavations for the site to reveal its secret: here lie the remains of 140 people and more than 200 llamas.

Archaeologists led by Professor Gabriel Prieto of the University of Trujillo explore the dune. The mystery begins to unravel. Researchers know that this site was inhabited by the Chimús, an important pre-Columbian civilization, who lived between the 11th and 15th centuries.



But who exactly are these people and why such a mass grave? First track: the study of bodies. They are in a very good state of preservation: some still have their hair and even food remains in their intestines. "Aridity and drought operated a process of natural mummification", details the French archaeozoologist, Nicolas Goepfert, who took part in the study. In the laboratory, DNA analyzes confirm that the victims are children and that they are unrelated girls and boys, aged 5 to 13 years. To find their geographical origins, the team is carrying out morphocranial and isotopic studies. These reveal that the children came from the coast but also from the Andes, or from the entire Chimú empire.

How did they die?

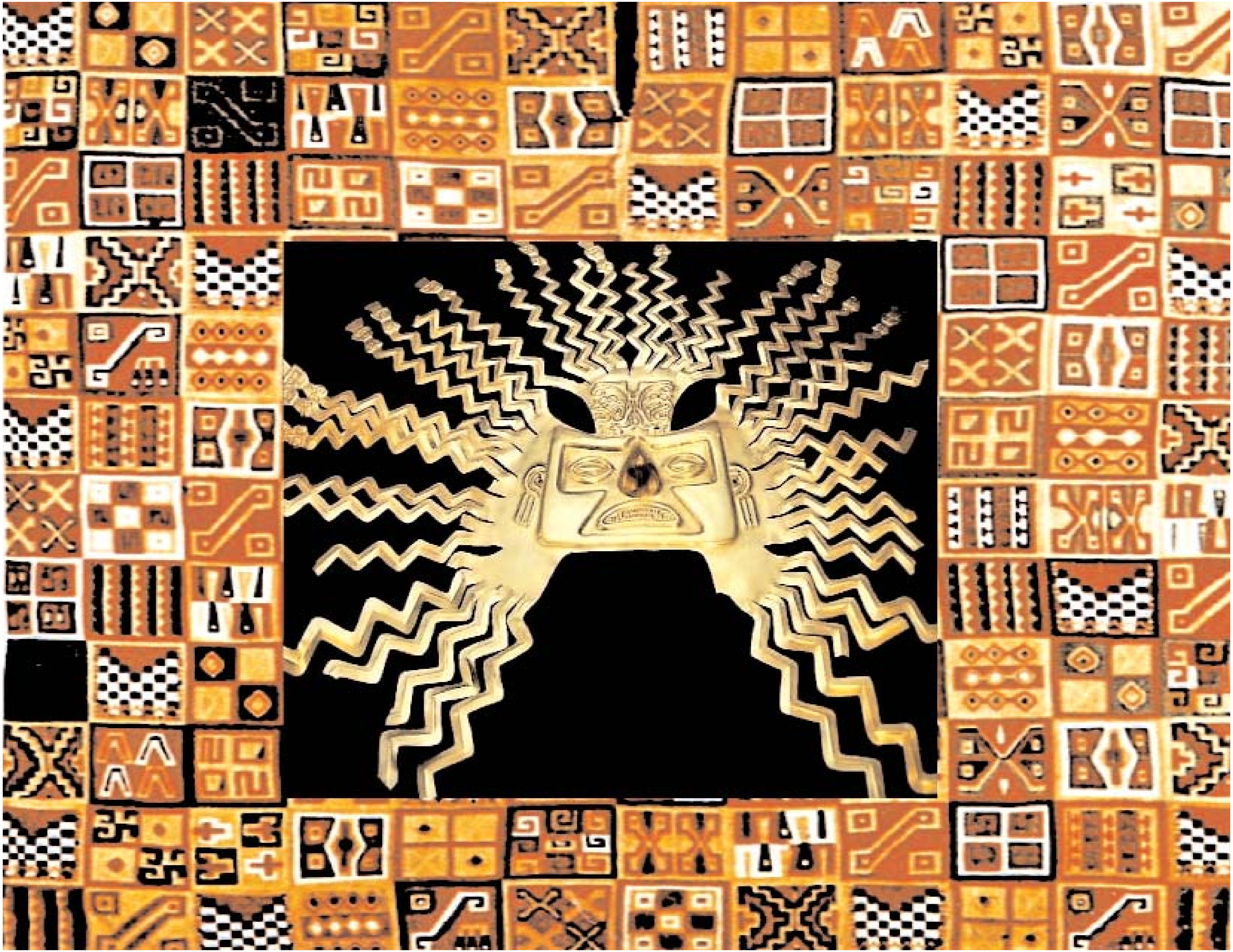
"Their rib cages were opened, most certainly to tear out their hearts. We found incision marks at the level of the breastbone and on the sides. Everything indicates that they were killed as part of a sacrifice", details Nicolas Goepfert. The dates show that they were killed between 1400 and 1450. The cotton headdresses and textiles suggest that they belonged to the local elite. The funeral association with the lamas also show the importance of sacrifice

These animals are used for food and transport. It is therefore a useful and precious good that was offered to the gods.

Another disturbing detail: "The sacrifices have followed one another at a significant rate. Probably in less than a year. Sometimes just a few days between them", continues the specialist. What made the Chimús panic? Why did they sacrifice their most precious possession? The answers arise under the trowels of researchers. One of the soil layers of Huanchaquito bears footprints. The compact clay may have preserved the last steps of the innocent victims. However, if there is mud, it is because it rained, and even a lot. The culprit could well be El Niño, a sea current that changes temperatures and… precipitation. In some years, its effects can be devastating. A climate change that has deeply disoriented the Chimús.

Skilled engineers, they prospered in one of the most arid regions of the world, between the 11th and 15th centuries, thanks to a hydraulic system capable of bringing water from the Andean foothills. For them, the issue of water is vital. "El Niño may have caused fear, argues the archaeozoologist. To ask for mercy from the gods, the Chimús sacrificed their children and their cattle." Did the gods hear their prayer? If there was any respite, it was only short-lived: around 1470, the Chimús disappeared, victims of the expansionism of the Incas.

Tezcatlipoca, whose name means smoking mirror, is a sorcerer at the origin of human sacrifices. He is the God of military schools, associated with war, with death. This god is represented in the animal form of a jaguar. Jaguar warriors (from the Nahuatl word "ocelotl", plural "ocelomeh") constituted a professional military order in the Aztec army.

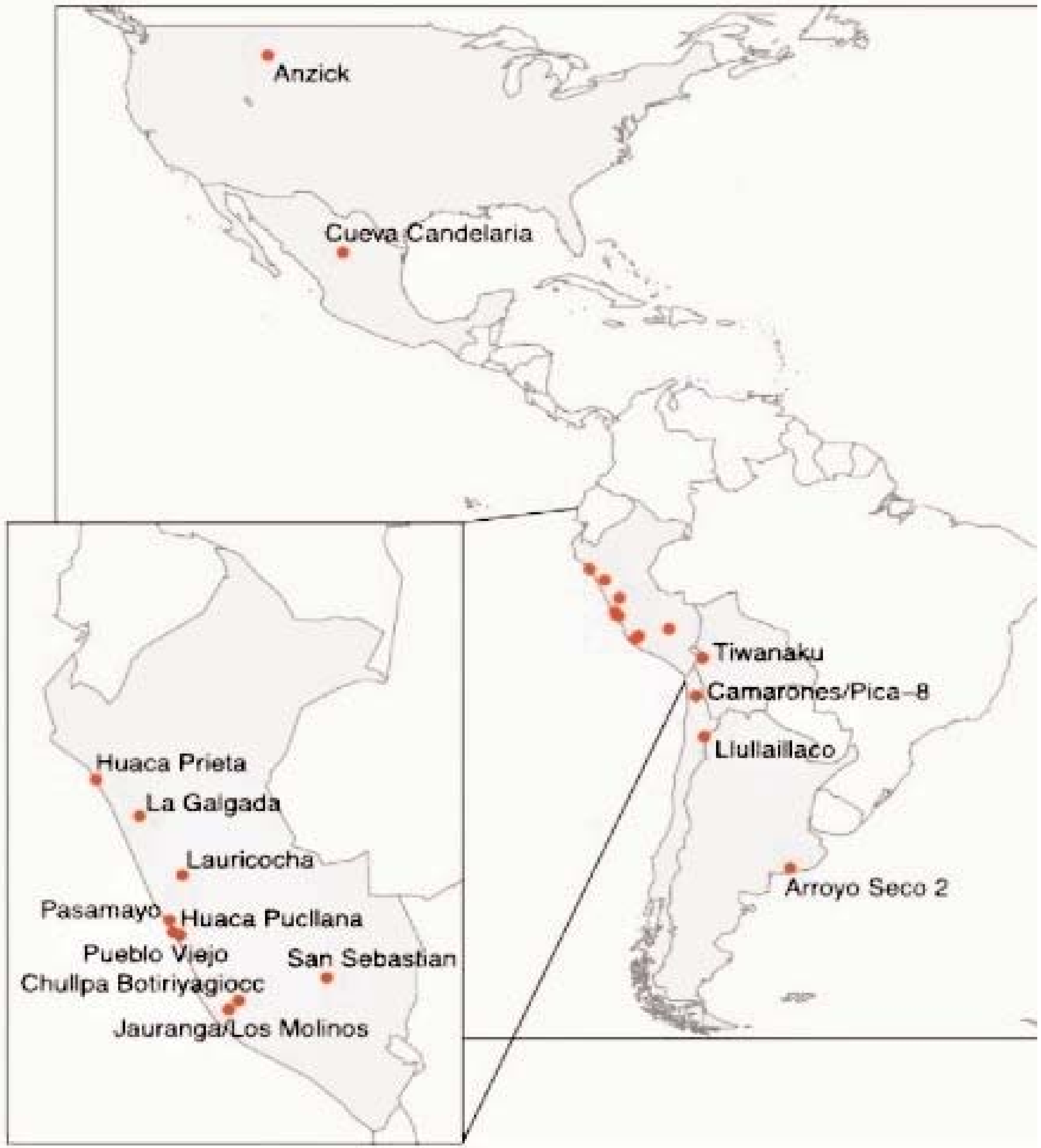


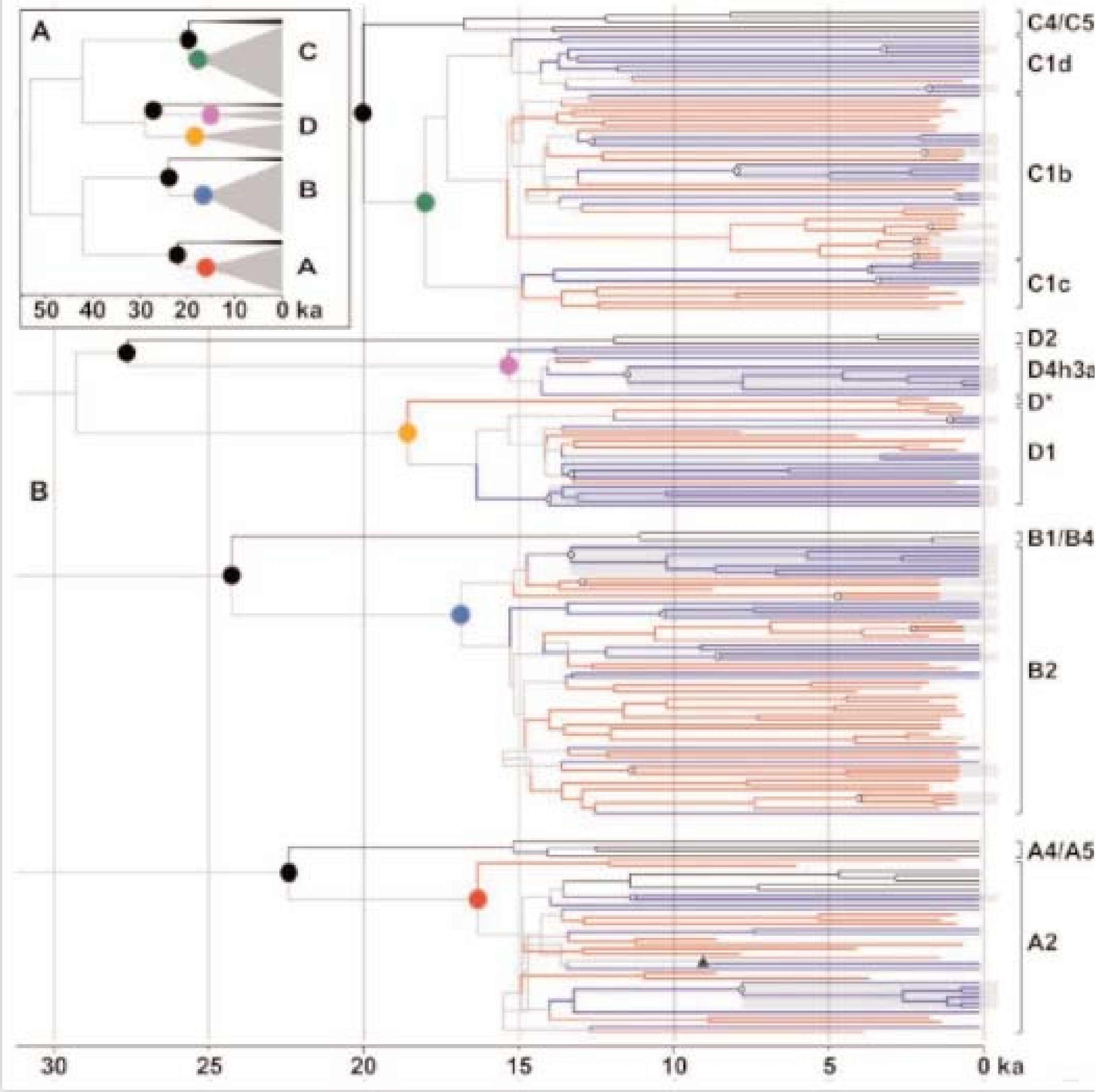
Ancient mitochondrial DNA in South America

The geographic isolation of the Americas delayed their colonization until the end of the Pleistocene between 20,000 and 10,000 years ago. It is likely that the first humans arrived from Asia through the Bering Strait above sea level during the Last Ice Maximum. However, at this time, most of North America was covered by the Cordillera and Laurentian ice sheets which blocked access from eastern Beringia. Shortly after the Cordillera Plate melted, a potential route along the Pacific coast opened up about 17,000 to 15,000 years ago. The alternative route through a corridor east of the Rocky Mountains opened only between 11,500 and 11,000 years ago. The timing and route used by the first human migration is important in understanding the size and speed of it.

Genetic studies of Amerindian populations are complicated by the demographic collapse and the significant loss of genetic diversity that followed European colonization at the end of the 15th century. However, initial results suggest that the arrival of small founding groups in a single migration is at the origin of most Native American ancestry today, although the distribution of some mitochondrial haplogroups suggests different routes of arrival either the along the Pacific coast (for D4h3a), or across the corridor east of the Rocky Mountains (for X2a).

fig. S1. Location of archaeological sites (see table S2 for detailed information samples). Camarones and Pica-8 have the same coordinates, as well as Jauran Molinos.





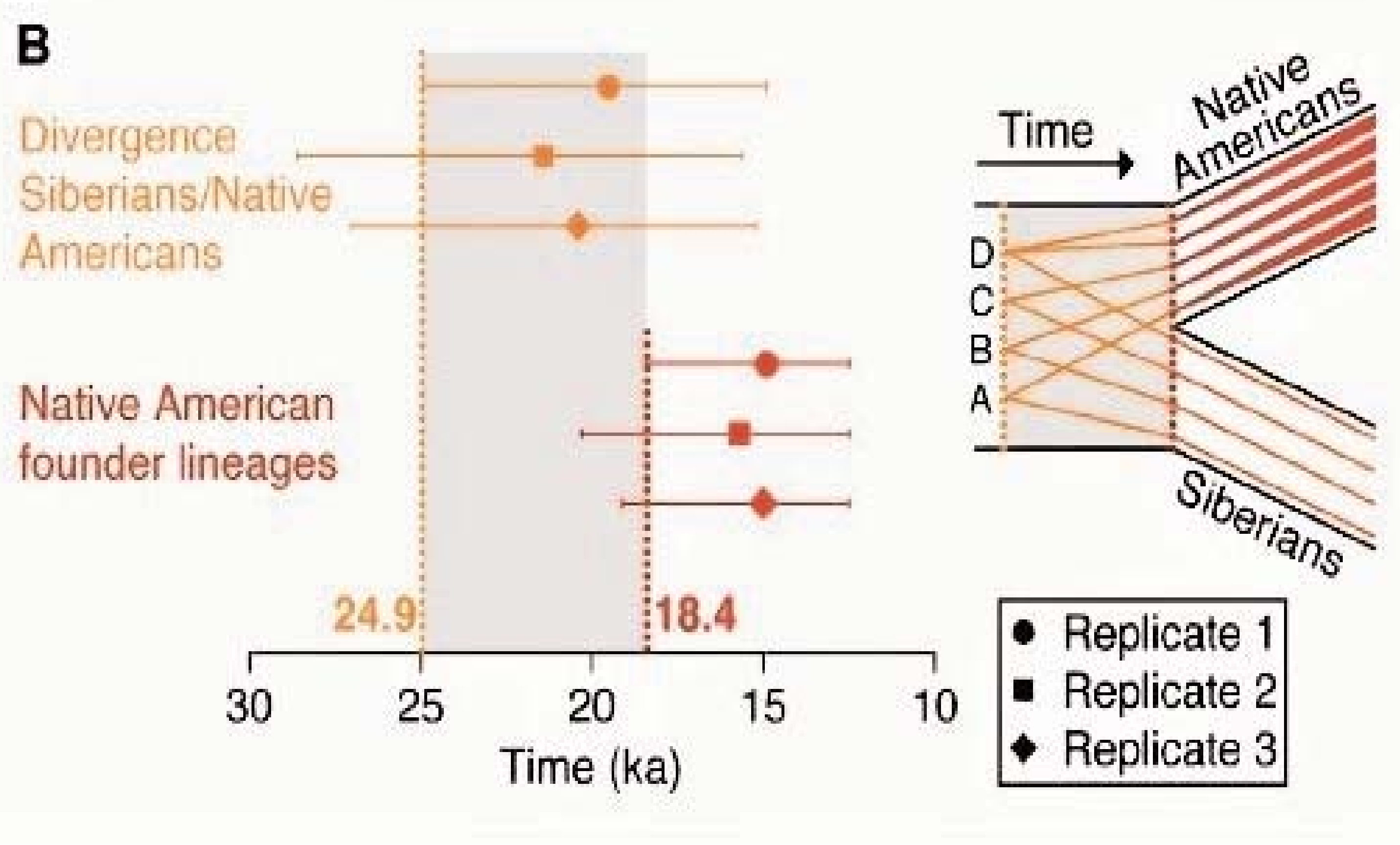
Unfortunately, molecular clock accuracy is limited in studies from the Americas due to low genetic diversity and lack of calibration points. Thus, these estimate the arrival of the first men with a low precision between 26,300 and 9,700 years.

Paleo-geneticists have just published a paper entitled: Ancient mitochondrial DNA provides high-resolution time scale of the peopling of the Americas. They sequenced the complete mitochondrial genome of 92 pre-Columbian individuals aged between 8,600 and 500 years old. These samples are located in Peru (70), Bolivia (9), northern Chile (6), Mexico (5) and Argentina (2). The individual of Anzick located in North America and previously sequenced has been added to this group:

The samples belong to 84 different haplotypes whose haplogroups are A2, B2, C1b, C1c, C1d and D1. Haplogroup D4h3a was not observed. None of these 84 ancient haplotypes correspond to a contemporary individual. These results show the importance of ancient DNA testing in taking the full measurement of the genetic diversity of the past and to reconstruct the process of settlement of the Americas.

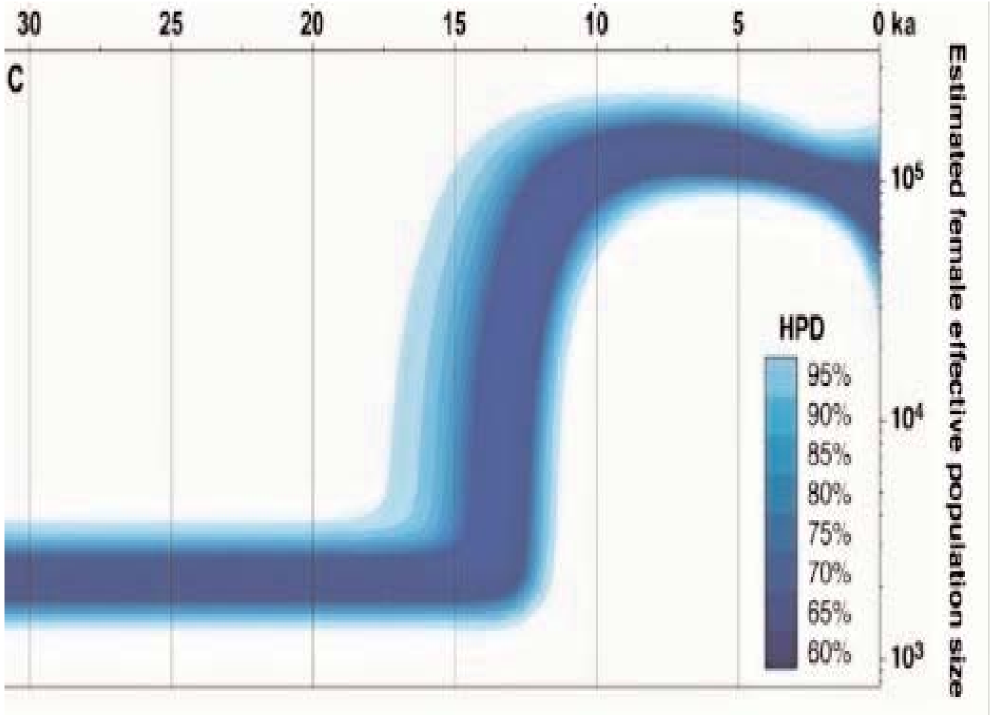
The estimation of the ages of the most recent common ancestors (TMRCA) for haplogroups A2, B2, C1, D1 and D4h3a is highly synchronous, thus confirming that these five haplogroups took part in the initial migration. In Figure A above, the black disks indicate the points of divergence between Siberians and Native Americans. Siberian clades are in black and Amerindian clades in gray.

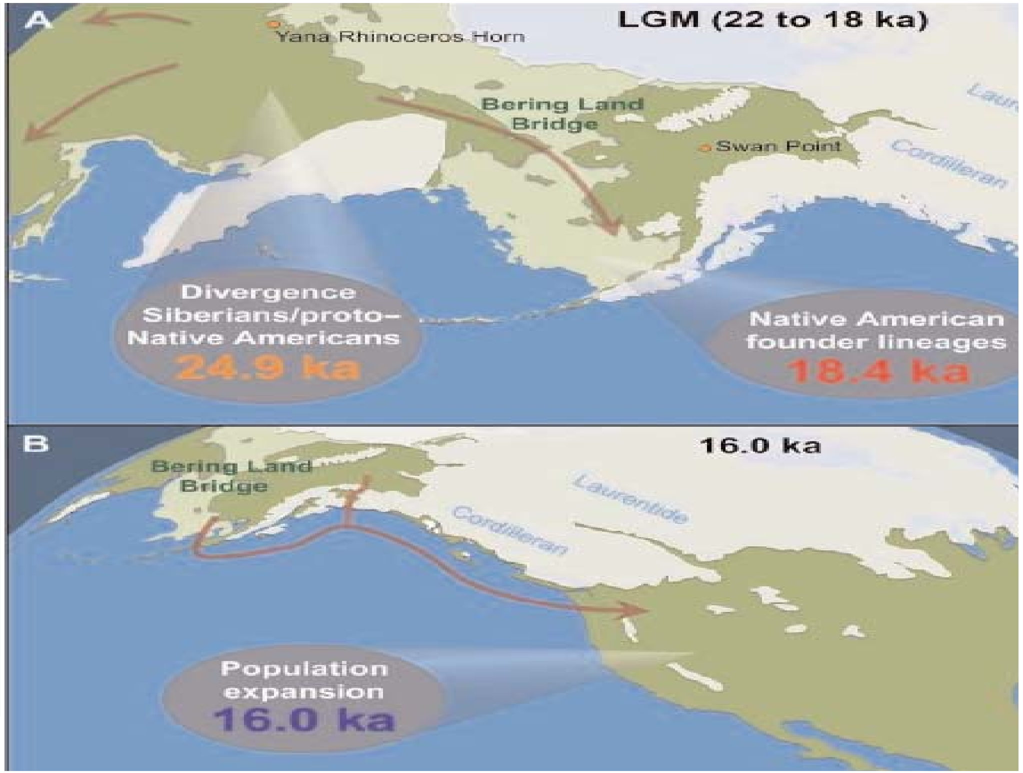
In Figure B below, Siberian clades are in black, contemporary Native American clades in blue, and ancient Native American clades in red.



The authors performed a Bayesian phylogenetic analysis of the mitochondrial sequences. As the use of more than 400 sequences for this analysis is too computationally time consuming, the authors used three sets of 87 sequences containing exclusively the five Native American haplogroups: A2, B2, C1, D1 and D4h3a for this analysis, more 20 Siberian sequences of the sister lineages and the 92 old genomes of this study to which was added the genome of the individual Anzick sequenced in a previous study. Thus each set contained a total of 200 sequences, the results of which correspond to the three replicates indicated in the figure below:

The figure below shows that the genetic divergence between the ancestors of Siberians and Native Americans dates back to a date between 24,900 and 18,400 years ago. We can consider that the two populations were separated after this date. It is not possible to know that this separation took place in Siberia or Beringia. However, this date of separation corresponds to the Last Ice Maximum. We can suppose that the arid conditions led the populations towards the western fringes of Beringia, ie present-day Siberia to go to a refuge located further south. Conversely, the populations located to the east of the Kamchatka and Chukotka peninsulas were blocked by the Aleutian ice belts and had to remain isolated in eastern Beringia. The size of the effective female population blocked in Beringia is of the order of 2000:



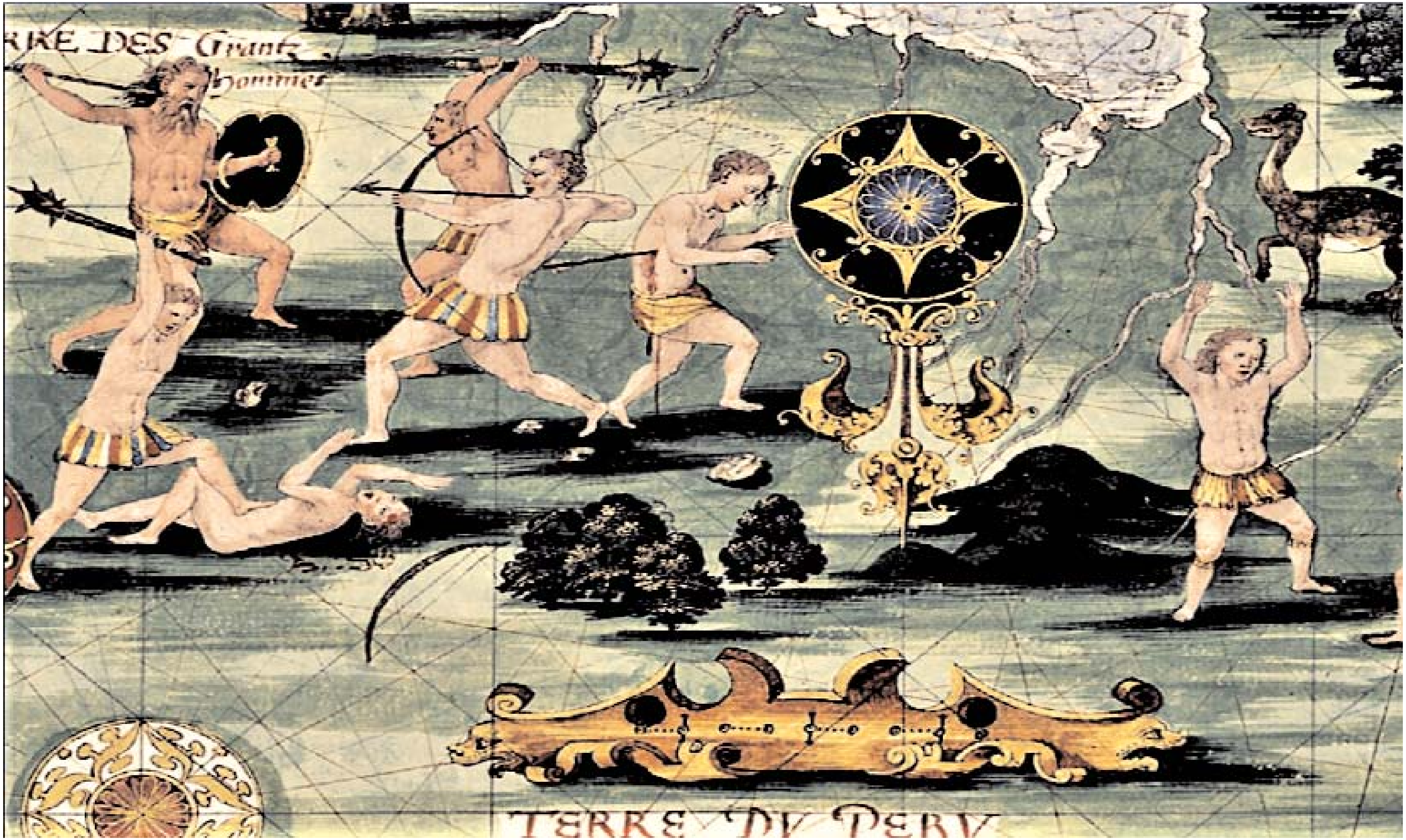


Although this number cannot be directly translated into actual population size, this population had to be relatively small and no more than a few tens of thousands of individuals. Observation of wildlife in this region at this time indicates a landscape formed by shrub tundra that may have been able to support such a population. These data are therefore compatible with a glacial refuge in Alaska and the Yukon during the Last Glacial Maximum.

The mitochondrial phylogenetic tree shows that there is a sudden expansion of all haplogroups between 16,000 and 13,000 years ago suggesting that the 16,000 year date does indeed correspond to the initial entry of early humans into North America. If we assume that the isolation of this population began between 24,900 and 18,400 years, this corresponds to a length of stay of these men in this refuge of between 2,400 and 9,000 years.

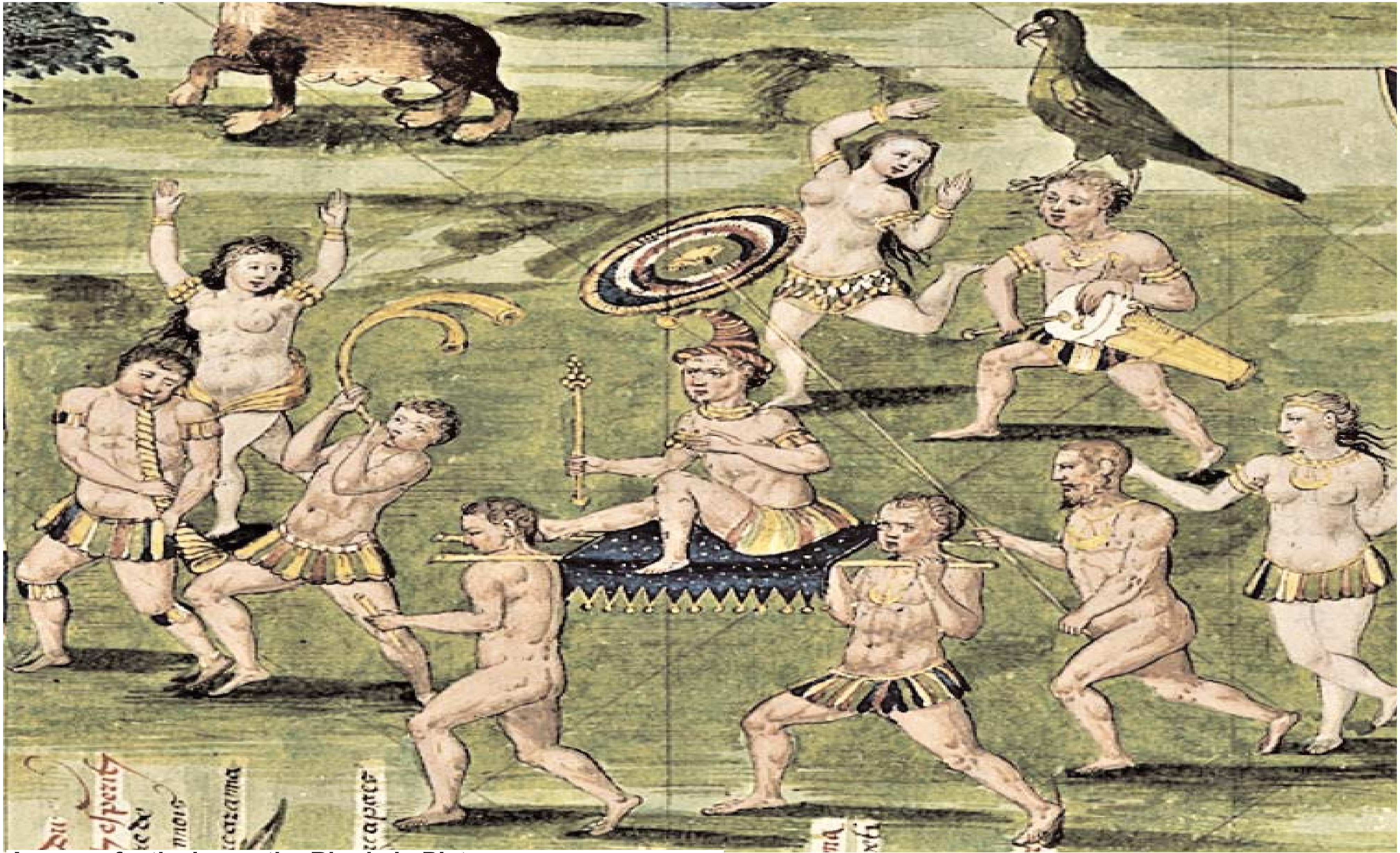
This 16,000-year-old date corresponds to the retreat of the Cordillera ice sheet and therefore to a route along the Pacific coast:
Knowing that the first archaeological evidence of the presence of man in southern Chile is 14,600 years, it took 1,400 years for this population to reach southern South America. This rapid migration of early humans led to the formation of a geographic structure of the genetics of this population with limited gene flow between these various regions.

It has been suggested previously that European colonization resulted in a bottleneck effect in the genetic diversity of Native Americans. The data from this study indeed show that modern and ancient haplotypes do not share common ancestors older than 9,000 years despite their high number. The authors studied seven different demographic models to try to explain this data using the BayeSSC tool. Only the model which combines a geographical separation between populations harboring modern and ancient haplotypes and a rapid extinction of the old lineages following European colonization can explain the observations.



The giants of Patagonia
Universal cosmography (detail of the Land of Peru)
Guillaume Le Testu, Le Havre, 1556.
Illuminated manuscript on paper (118 p. Including 57 pl.), 53 x 36 cm
Vincennes, Historical Department of Defense, Library, D.1.Z.14, f. 48v FRANCE

The natives of the southern coasts of America were first described by Antonio Pigafetta who participated in Magellan's expedition around the world. The map of Peru shows the strait and its outlet on the Pacific Ocean, called "South Sea", and the "Land of Great Men", otherwise known as "Kingdom of Gingant or Ginganton". The mythical "giants" of Patagonia, unrealistically dressed in ancient loincloths and draperies, are painted in battle. The text states that "the inhabitants are ten to twelve cubits tall and speak only by whistling."



A pagan festival near the Rio de la Plata
Universal cosmography (detail)
Guillaume Le Testu, Le Havre, 1556.
Illuminated manuscript on paper (118 p. Including 57 pl.), 53 x 36 cm
Vincennes, Historical Department of Defense, Library, D.1.Z.14, f. 53v FRANCE

The American continent, to the south, is represented between the Rio de la Plata, "very rich in money" and the Strait of Magellan. The people of this land are "savage, ignorant of God" pagans and are dressed in "cotton garments". Further south is the kingdom of formidable fighting giants, called in other accounts the Patagons and here the "Gingantons". More whimsical than the text, the image shows a procession of men and women dressed in colorful loincloths, playing various musical instruments around a figure (a pagan idol?) Sheltered under a canopy.

Ancient genomes in southern Patagonia

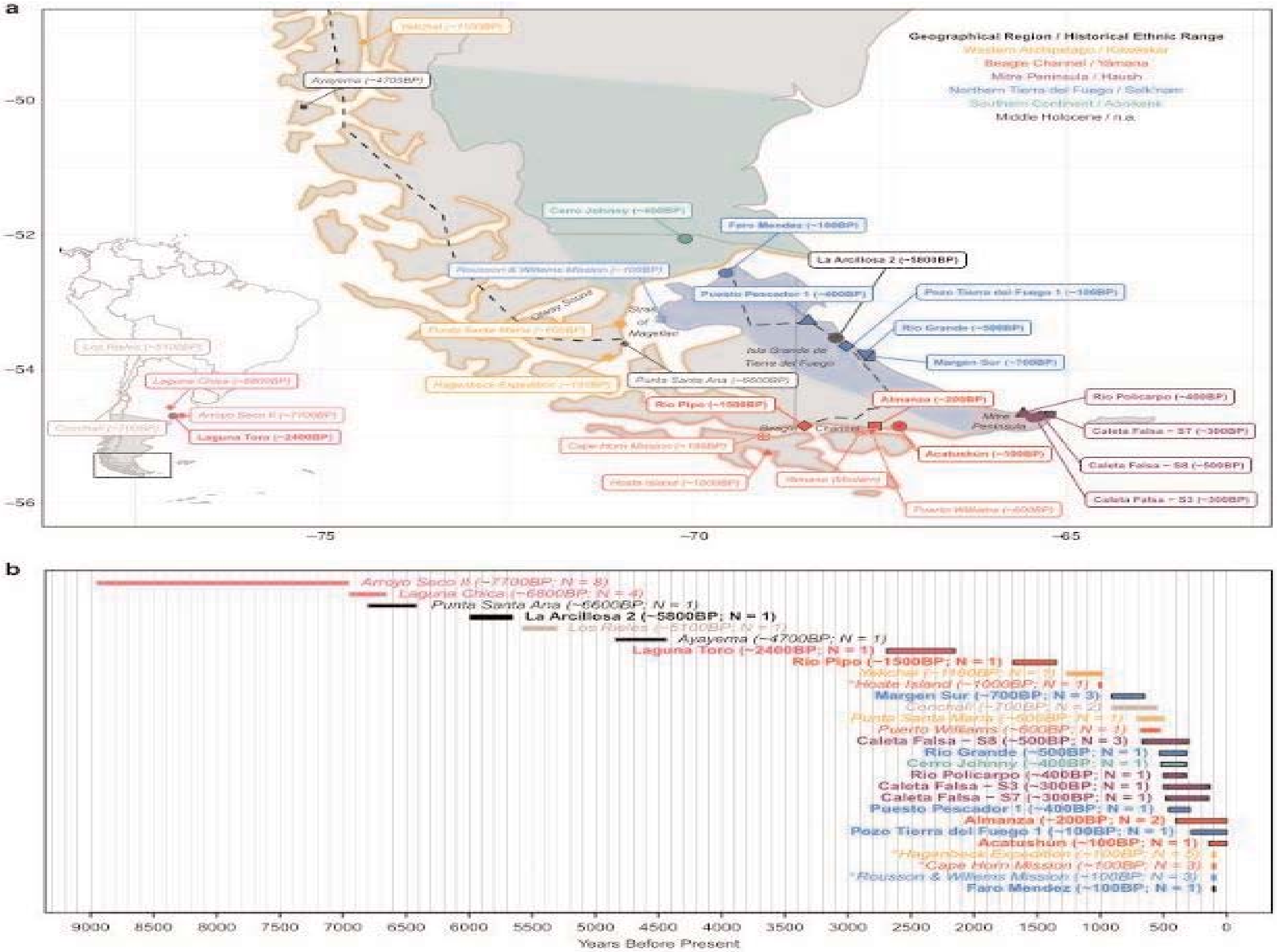
Southern Patagonia has been occupied by humans for at least 12,600 years. A handful of archaeological sites are dated between 12,600 and 3,500 years old. The density of these archaeological sites increases significantly thereafter. The emergence of navigation technology (canoes, harpoons) dates back to around 6,700 years ago. The colonization of the archipelagos in the west of Patagonia begins on this date. A debate exists to know if this technology appeared locally or following the migration of population or the dissemination of ideas from the north. Another technological change appears in the western archipelago with the disappearance of the use of green obsidian in tooling between 6300 and 5500 years ago. Finally, 2000 years ago, we observed an increase in the size of the population and technological innovations.

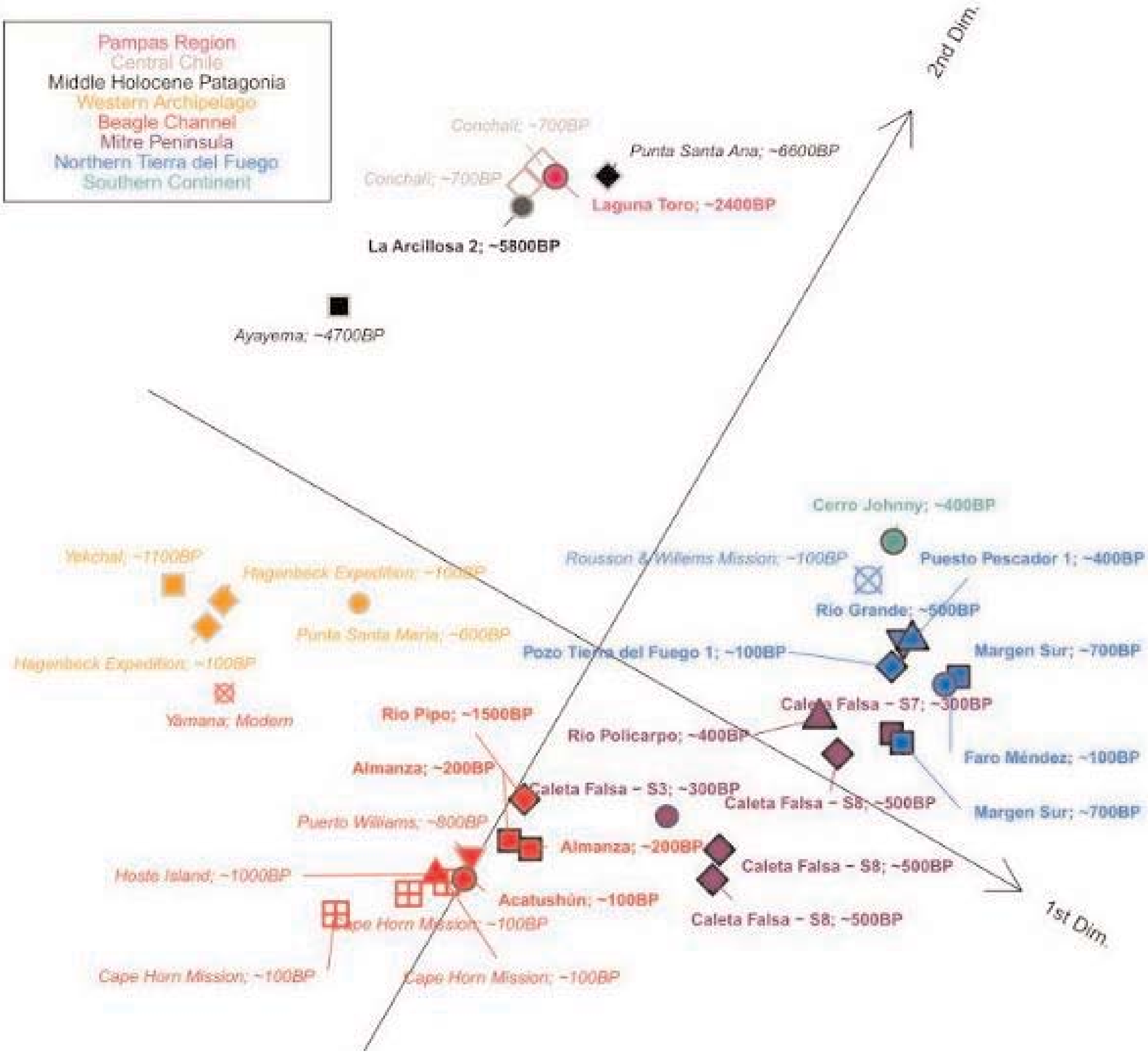
In the 16th century the first Europeans described five Native American groups either hunting and gathering in the north and east, or fishing in the south and west. The first are the Aónikenk or Tehuelche of the south and the Selk'nam. The second are the Yámana and the Kawéskar. At the tip of the southeastern tip of Patagonia, the Haush are divided between hunting land animals and fishing for marine animals although they do not have navigation technology.

Paleo-geneticists have sequenced the genome of 19 ancient individuals from Patagonia dated between 5,800 and 100 years old, and one individual from the Argentine pampas dated to 2,400 years old. These genomes (in bold below) were compared with those previously obtained (in italics): The individuals in this study all belong to the mitochondrial haplogroups: C1b, C1c, D1g5 and D4h3a and to the haplogroup of the Y chromosome Q1a2a. Their rate of heterozygosity is among the lowest in the world, corresponding to small populations. The f4 statistic shows that all ancient individuals from Patagonia share more alleles with other individuals from Patagonia than with ancient individuals from the Argentine pampas or central Chile. This result suggests a significant degree of genetic continuity in Patagonia for at least 6,600 years.

A multiscale analysis based on the f3 statistic shows that individuals from Patagonia from the mid-Holocene differ from more recent individuals. They cluster together with the exception of the 4,700-year-old Ayeyama individual from Chile which is moved to more recent individuals from the western Patagonian archipelago:

The figure below also shows that at the end of the Holocene, individuals are correlated with geography with different clusters corresponding to individuals from the western archipelago (in orange), to the Beagle Channel region (in red) and the region corresponding to the south of the continent and to the north of Tierra del Fuego (respectively in green and blue). However, individuals from the tip of the Miter Peninsula (in purple) are distributed over a genetic gradient between the red and blue clusters. The f4 statistic shows that the ancient individuals of the Middle Holocene: Punta Santa Ana of Chile dated 6,600 years ago and La Arcillosa of Argentina dated 5,800 years ago are genetically equidistant from all the ancient individuals of Patagonia of the Late Holocene. , and at an equal genetic distance from any other Native American group outside of Patagonia. However, the isotopic results show that the individual from Punta Santa Ana has a marine diet while that of La Arcillosa has a terrestrial diet. These results suggest that adaptation to the marine environment in southern Patagonia is not linked to migration from the north, but has occurred locally. In addition, the 4,700-year-old ancient Ayayema individual from Chile is genetically closer to individuals from the western archipelago, the Kawéskar and Yámana, but not the Selk'nam, Aónikenk and Haush. This result suggests that the genetic ancestry present in the Ayayema individual has contributed to more recent individuals based on marine resources. This Ayayema individual dates from the change related to the loss of the use of green obsidian in the western archipelago. This technological change therefore seems to be linked to the arrival of a population from the north where Ayayema is located.

a
Geographical Region / Historical Ethnic Range
Western Archipelago / Kawésqar
Beagle Channel / Yámana
Mitre Peninsula / Haush
Northern Tierra del Fuego / Selk'nam
Southern Continent / Aónikenk
Middle Holocene / n.a.
Yekchal (~1100BP)
Ayayema (~4700BP)
Cerro Johnny (~400BP)
Faro Mendez (~100BP)
La Arcillosa 2 (~5800BP)
Rousson & Willems Mission (~100BP)
Puesto Pescador 1 (~400BP)
Pozo Tierra del Fuego 1 (~100BP)
Otway Sound
Strait of Magellan
Punta Santa Maria (~500BP)
Rio Grande (~500BP)
Los Rieles (~5100BP)
Isla Grande de Tierra del Fuego
Margen Sur (~700BP)
Laguna Chica (~6800BP)
Hagenbeck Expedition (~100BP)
Punta Santa Ana (~6600BP)
Rio Pipo (~1500BP)
Almanza (~200BP)
Rio Policarpo (~400BP)
Arroyo Seco II (~7700BP)
Conchali (~700BP)
Laguna Toro (~2400BP)
Mitre Peninsula
Beagle Channel
Caleta Falsa – S7 (~300BP)
Cape Horn Mission (~100BP)
Acatushun (~100BP)
Caleta Falsa – S8 (~500BP)
Hoste Island (~1000BP)
Yámana (Modern)
Caleta Falsa – S3 (~300BP)
Puerto Williams (~600BP)
−50
−52
−54
−56
−75
−70
−65
b
Arroyo Seco II (~7700BP; N = 8)
Laguna Chica (~6800BP; N = 4)
Punta Santa Ana (~6600BP; N = 1)
La Arcillosa 2 (~5800BP; N = 1)
Los Rieles (~5100BP; N = 1)
Ayayema (~4700BP; N = 1)
Laguna Toro (~2400BP; N = 1)
Rio Pipo (~1500BP; N = 1)
Yekchal (~1100BP; N = 1)
*Hoste Island (~1000BP; N = 1)
Margen Sur (~700BP; N = 3)
Conchali (~700BP; N = 2)
Punta Santa Maria (~500BP; N = 1)
Puerto Williams (~600BP; N = 1)
Caleta Falsa – S8 (~500BP; N = 3)
Rio Grande (~500BP; N = 1)
Cerro Johnny (~400BP; N = 1)
Rio Policarpo (~400BP; N = 1)
Caleta Falsa – S3 (~300BP; N = 1)
Caleta Falsa – S7 (~300BP; N = 1)
Puesto Pescador 1 (~400BP; N = 1)
Almanza (~200BP; N = 2)
Pozo Tierra del Fuego 1 (~100BP; N = 1)
Acatushun (~100BP; N = 1)
*Hagenbeck Expedition (~100BP; N = 5)
*Cape Horn Mission (~100BP; N = 3)
*Rousson & Willems Mission (~100BP; N = 3)
Faro Mendez (~100BP; N = 1)
9000
8500
8000
7500
7000
6500
6000
5500
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
Years Before Present



The f4 statistic also shows that 700-year-old ancient Conchali individuals from Chile share more alleles with individuals from southern Patagonia of the Late Holocene than with those of the Middle Holocene. In addition, the qpAdm software shows that the Kawéskar and Yámana can be modeled as resulting from a genetic mixture between the individuals of Conchali (45 to 65%) and the former individual of Ayayema (35 to 55%). This model does not work if we replace the individual from Ayayema with those from Punta Santa Ana or La Arcillosa. These results confirm the repopulation of the western archipelago during the Middle Holocene.

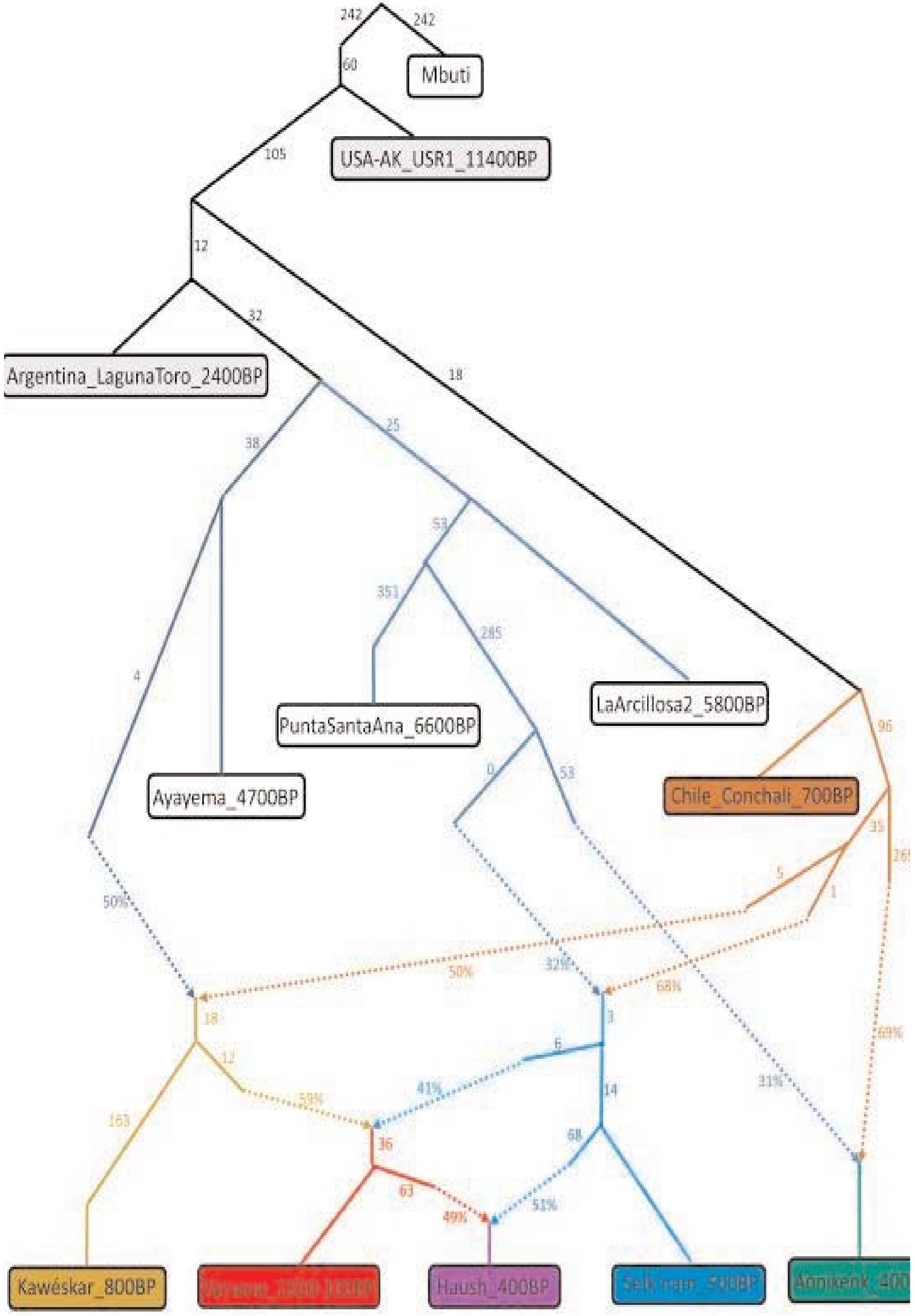
On the other hand the Selk'nam of the east can be modeled as resulting from a genetic mixture between the individuals of Conchali (50 to 60%) and the former individual of Punta Santa Ana or of La Arcillosa (40 to 50%). All these results therefore also suggest the arrival of a population from the north during the Final Holocene, close to the ancient individuals of Conchali and who mixed with all the groups in southern Patagonia.

In summary, this study indicates the arrival of at least three populations in southern Patagonia. The first is dated at least 6,600 years old and corresponds to the arrival of the ancestors of the individual from Punta Santa Ana. The second is linked to the arrival of the ancestry included in the Ayayema individual in the western archipelago more than 2000 years ago. The third brings the ancestry included in the individuals of Conchali, in southern Patagonia.

On the other hand, the analysis of ancient individuals from the late Holocene of southern Patagonia shows that the Selk'nam are genetically intermediate between their neighbors Aónikenk, Haush and Yámana. The Haush are genetically intermediary between their neighbors Yámana and Selk'nam. Finally, the Yámana are genetically intermediary between their neighbors Selk'nam and Kawéskar. The dates of genetic mixtures are between 1200 and 2200 years. In conclusion, these results suggest that there were genetic mixtures between each of the neighboring groups in southern Patagonia.

The authors used the qpGraph software to model the relationships between different groups in southern Patagonia:

Finally, the comparison of the genomes of the current populations of southern Patagonia with the old individuals shows that all the current populations share more alleles with the old individuals of the same region, thus suggesting a certain genetic continuity.



Discovery of the oldest known trace of human presence in the Americas.

In southern Chile, they unearthed a human footprint that dates back at least 15,600 years. An age that would make this imprint the oldest known trace of human presence in the Americas.

It was in 2010 that the discovery was made in a layer of sediment at the Pilauco site in Chilean Patagonia. Located in the city of Osorno, this paleo-archaeological site has been excavated since 2007 by scientists who have found numerous animal bones there as well as traces of human presence. But never yet any fingerprints.

A footprint left by a barefoot man

The trace was spotted near a house, but archaeologists at the University of Southern Chile took many years to confirm that the footprint was indeed human. At the same time, they carried out dating analyzes on the organic plant material identified near the trace. The results revealed in a study published in the journal PLoS ONE suggest an age between 15,600 and 16,000 years.

"Other human footprints have been discovered in the Americas", noted geologist Mario Pino, a member of the team for the daily El Austral, "but none has ever been dated so far". On the neighboring Monte Verde site south of Osorno, a footprint had indeed already been identified but it would be around 1,000 years later. According to archaeologists, the print was left in the muddy ground by a barefoot man weighing around 70 kilograms. It would belong to the ichnospecies Hominipes modernus, a species named from fossil traces generally associated with Homo sapiens. Along with the imprint, stone tools and animal bones were also found, confirming the human track.

A migration to review

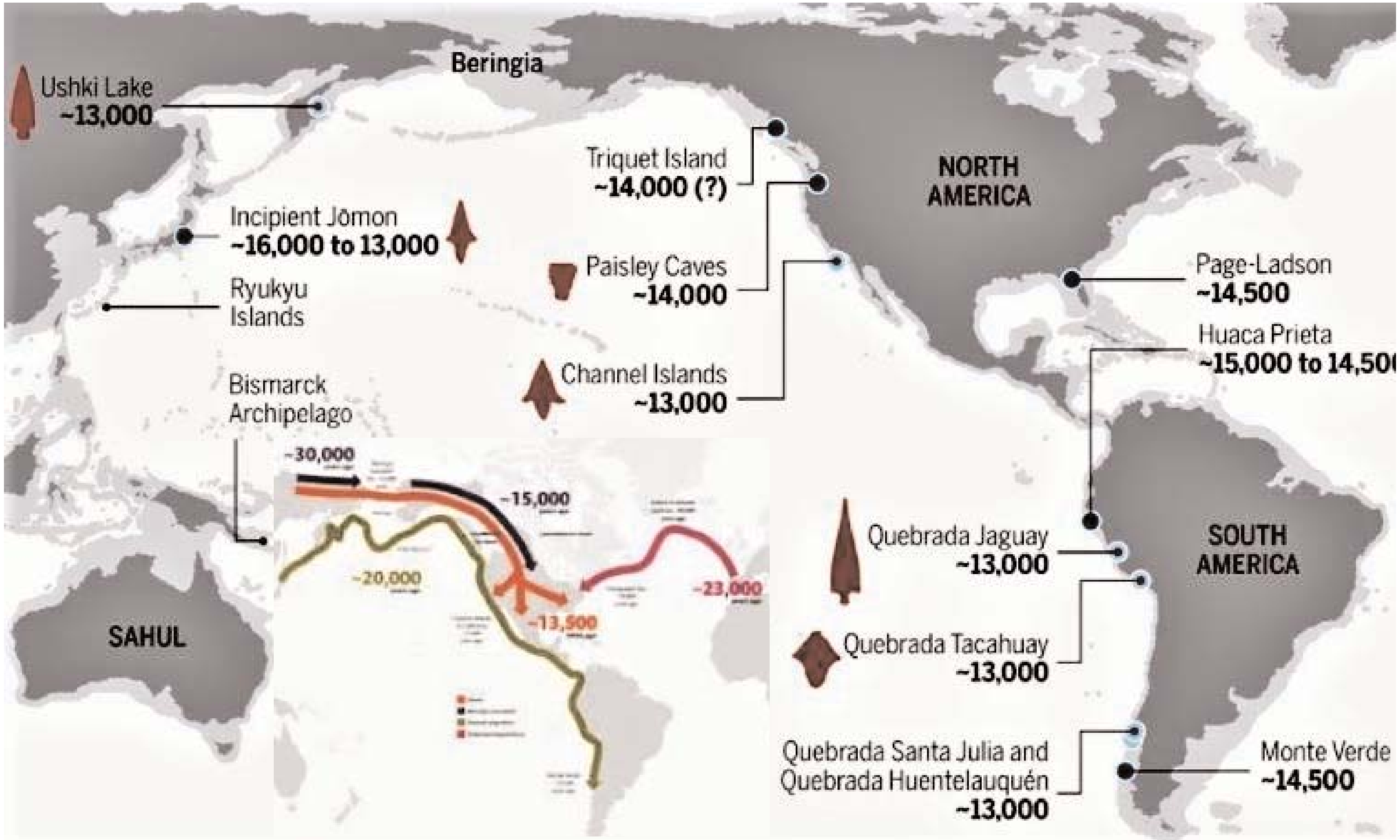
If the imprint sets a new record, it also shakes up the history of the arrival of humans in the Americas. For a long time, theories have suggested that humans reached the continent around 13,500 years ago, taking a route that took them from Siberia to North America via the Bering Strait. A scenario increasingly refuted by archaeological discoveries.

In 2016, researchers in Florida found stone tools and mastodon bones suggesting a human presence in the area 14,500 years ago. Others have unearthed projectiles in Texas of a still unknown style dating back some 16,000 years. So many clues that suggest that what specialists call the Clovis culture is not the oldest on the American continent.

The discovery of this imprint thus pushes once again to review the chronology and the map of migrations which led man to colonize the Americas. It also supports a theory suggesting that the hominids may have taken another passage known as the "Kelp Highway" that would have taken them 16,000 years ago - if not more - from Asia to North America and then to North America. South America.

"This human trace discovered in Pilauco, ichnologically attributed to Hominipes modernus, adds a new and independent piece of evidence to the colonization of northern Patagonia, as some have been defending for more than forty years", conclude the archaeologists in their study.

The kelp route



The early Americans may have followed a "kelp highway" from marine resources via a coastal route from Siberia to the New World. Nutrient-rich kelp beds like these near Crook Point on the Oregon coast attract salmon and other marine life that would have supported early explorers. The now submerged Beringia Land Bridge once connected Siberia to North America. For years, standard history taught us that Siberian hunter-gatherers crossed it on foot when the glaciers retreated enough, at the end of the last ice age, to open an ice-free corridor. And people walked through Beringia when such a road opened up. But they were probably not the first Americans.

Thanks to a growing body of archaeological and genetic evidence, several researchers say it is increasingly likely that the first humans to arrive in the Americas followed a coastal route, making the most of marine resources on a "highway of kelp "which spanned the edge of the North Pacific from Asia to North America. And they made this trip long before the glaciers retreated to open up the traditional land route to Beringia.

About 16,000 years ago, someone traveling along the northern Pacific Ocean coast eastward from Siberia would have encountered a mostly open road at sea level, withs hot at fish, shellfish, kelp, seabirds and other resources - and no dangerous open ocean.

The specificity of the hypothesis, along with subsequent archaeological findings that challenge the Beringian chronology, has led more and more researchers to question whether they wanted to stay in the overland migration camp.

For nearly a century, the main theory of the human population of the Americas was that the Clovis big game hunters entered North America at the end of the Pleistocene along an ice-free corridor between Canada's ice caps. , about 10,000 years ago

The novelty of the kelp highway hypothesis, according to the authors of today's commentary, is that we have passed a tipping point, and most of the field now thinks the early Americans had. followed this "Pacific Rim" kelp buffet from Siberia to the North American coast and beyond. What the "kelp highway" hypothesis brings to the Pacific coast migration model is the emphasis on the diet of the so-called adventurers who used the Pacific coast to settle in. North and South America. This dietary goal was first suggested by American archaeologist Jon Erlandson and his colleagues from 2007.

Erlandson and his colleagues proposed that American colonizers were people who used the tips of silk or rod projectiles to lean on an abundance of marine species such as marine mammals (seals, sea otters and walruses, cetaceans (whales, dolphins and porpoises), seabirds and waterfowl, crustaceans, fish and edible algae. Support technology required to hunt, kill and process marine mammals, for example, must include seaworthy boats, harpoons and floats. These different food resources are found permanently along the Pacific Rim. Although boatbuilding has long been considered a fairly recent ability - the oldest excavated boats hail from Mesopotamia - researchers have been forced to recalibrate this. Australia, separated from the Asian continent, was colonized by humans at least 50,000 years ago. The islands of western Melanesia were built around 40,000 years ago and the Ryukyu Islands between Japan and Taiwan 35,000 years ago.

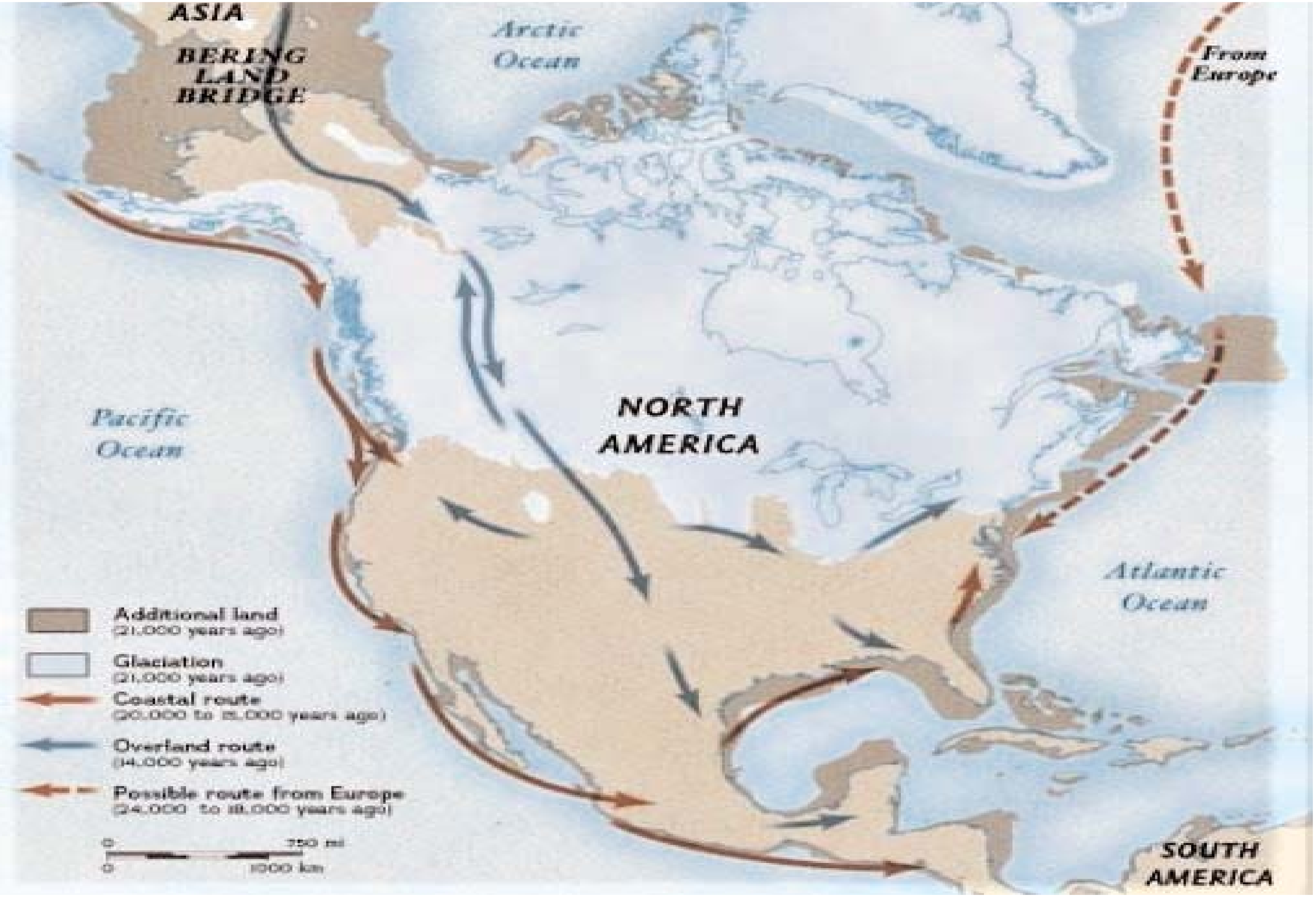
As these early Americans moved south to Central America, the marine ecosystem would have changed - more kelp beds, but mangrove habitats instead, which offered different sustaining motives than the adaptable humans were using. As the kelp highway hypothesis becomes increasingly plausible, the ancient earthly idea of Beringia as the only migratory route faces more and more challenges.

Kelp supporters suggest that from about 18,000 years ago, Asian hunter-gatherers used the Pacific Rim for travel, reaching North America 16,000 years ago and along the coast, reaching Monte Verde in southern Chile in less than 1,000 years. Once people reached the Isthmus of Panama, they took different paths, some north along the Atlantic coast of North America and some south along the South American Atlantic coast, in addition to the path along the South American Pacific coast that led to Monte Verde.

Proponents also suggest that Clovis's large mammal hunting technology developed as a method of terrestrial subsistence near the Isthmus 13,000 years ago, and spread to the south-central and south. - eastern North America. These Clovis hunters, descendants of Pre-Clovis, in turn spread north over land in North America, eventually meeting the descendants of the Pre-Clovis in the northeast western United States that used western shank points. It was only then that Clovis colonized the finally truly ice-free corridor to mingle with eastern Beringia.

But the kelp highway hypothesis and the Pacific coast migration model are a rich source of future investigation to determine how people moved to new territories by discovering coastal sites of maritime life that are today. 'hui submerged between 50 and 120 m below mean sea level due to global warming.

There is strong archaeological evidence at the Monte Verde site in Chile of a human presence on the South American coast at least 14,500 years ago - and potentially 18,000 years ago at the Pilauco site in Chilean Patagonia. . And in Florida last year, researchers found evidence of an approximately 14,550-year-old behemoth slaughter site.


ASIA
BERING LAND BRIDGE
Arctic Ocean
From Europe
Pacific Ocean
NORTH AMERICA
Atlantic Ocean
SOUTH AMERICA
Additional land (21,000 years ago)
Glaciation (21,000 years ago)
Coastal route (20,000 to 15,000 years ago)
Overland route (14,000 years ago)
Possible route from Europe (24,000 to 18,000 years ago)
0 750 mi
0 1000 km

The Mapuche

(literally "People of the earth" in Mapudungun) are an ethnic group and indigenous people of Chile and Argentina forming several communities, also known under the name of Araucans (the latter name having been given by the Spaniards to the natives originally inhabiting the historic region of Araucania) Strictly speaking, the term Mapuche refers to the Amerindians living in Araucania or Arauco, roughly coinciding with the current Chilean administrative region of Araucania, that is to say the Araucans and their descendants ; in a broader sense, the term encompasses all those who speak, or formerly spoke, the Mapuche or Mapudungun language, including various indigenous groups who between the 17th and 19th centuries underwent the so-called araucanization process as a result of Araucan expansion. from original Araucania (in present-day Chile) to areas east of the Andes Cordillera (that is to say in present-day Argentina).

In Chile, they live mainly in rural areas of the Araucanía region as well as in the Lakes region and the metropolitan region of Santiago (the capital, Santiago de Chile). They are estimated to be around 200,000 in Argentina, spread mainly over the province of Neuquén, but also that of Río Negro and Chubut. The other, smaller indigenous populations of Chile are Aymara and Rapa Nuis. In the Chilean provinces of Osorno and Chiloé, the Huilliche people are established. Occasionally, the Huilliches of Chiloé prefer to name Veliches themselves as well as the variant of the Mapudungun language which they used until the end of the 19th century.
In the Chilean provinces of Malleco and Cautín are used the names of Nagche, 'people from below', for the inhabitants of the Central Valley and Wenteche, 'people from above', for those living in the Andean Precordillera; these two names have a territorial rather than a cultural significance.

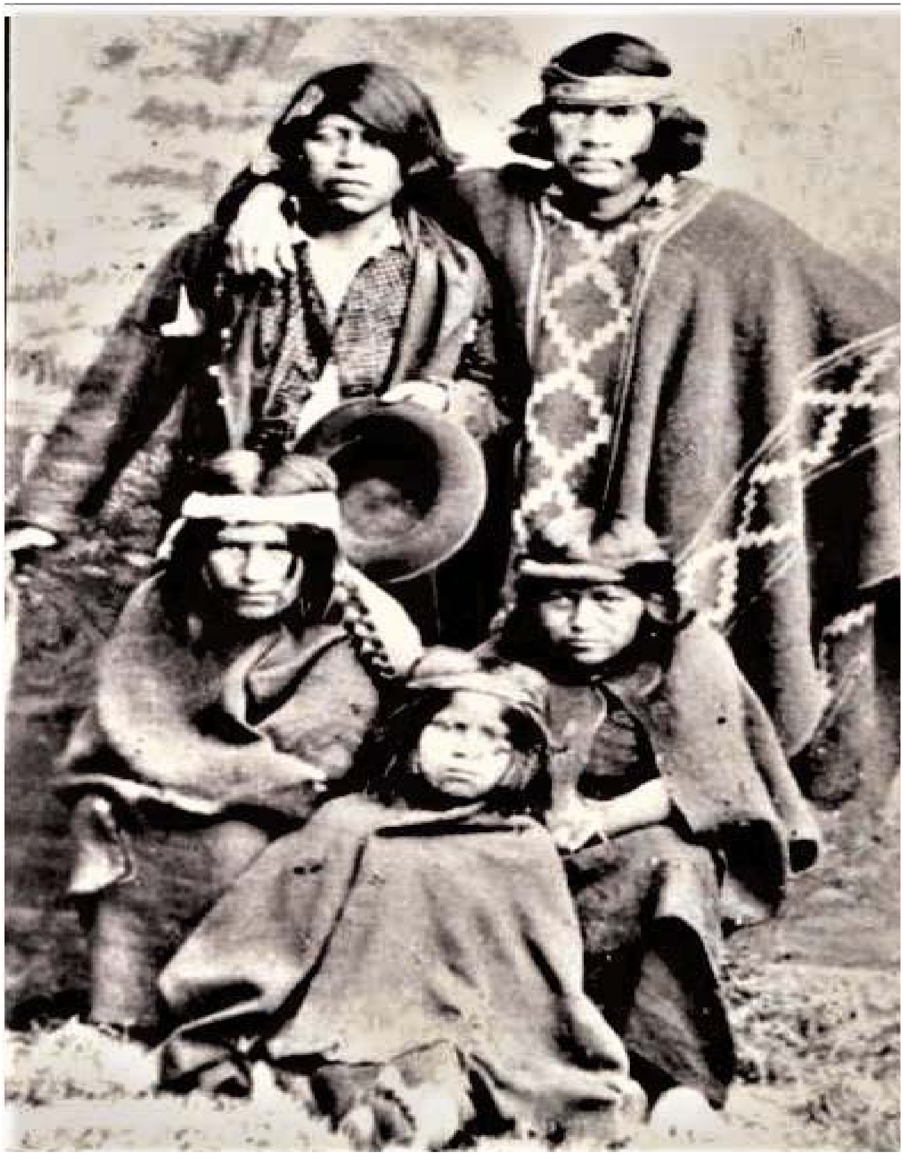
Indigenous ethnic groups have inhabited the soil of Neuquén for thousands of years. Remains such as cave paintings and engravings made by the oldest cultures are still preserved.

The last groups to inhabit the territory of Neuquén, before the conquest, were the Puelches, the Pehuenches and the Mapuches

Puelches
They received this name from the Chilean Mapuche, because it means "people of the East". Grouped into tribes headed by a chief, they were monogamous, although chiefs and important figures may have multiple wives.

They lived in tipis, which they carried from one place to another. They slept on sheepskins. They are dressed in chiripa, poncho and leather boots. The women wore their hair in two long braids and covered themselves with blankets which they tied at their waists with colorful belts.

Their weapons included the boleadoras, which they tied around their waists, and the slingshot and spear, which they used against the Spaniards during the conquest, especially after starting to ride horses. As a defensive weapon, they also used a kind of rawhide helmet and shield.



The Mapuche language prevailed over the languages of previous cultures. They were polygamists. The number of wives varied according to their wealth.

Also other new hypotheses on the origin of the Mapuche ethnic group have been formulated, showing that the current Chilean territory would have been inhabited, before the advent of the Mapuche culture, by groups of gatherers who, without having of fixed place of residence, occupied certain areas in a stable manner and lived by hunting guanaco and huemul, in addition to collecting molluscs, fruits and seeds. It was postulated that these groups were the base of the Mapuche population, and that one of these groups gained the upper hand over the rest and knew how to impose its language and its beliefs. However, it is not yet possible to indicate with precision how this ethnic group was formed, the available evidence allowing to specify only that around the years 500 and 600 before. AD, there was a culture that can be followed with certainty in time until the Mapuche of later centuries.

In Argentina, the Mapuche or Araucans are the most numerous indigenous people, although their numbers are about ten times lower than in Chile.

The Mapuche first had to face the expansionist aims of the Incas, who certainly succeeded in subduing the northern Mapuche groups, called Picunches by historians, but were then blocked by the Mapuche resistance at the height of the Maule river (about 250 km away , as the crow flies, south of Santiago), after the heavy defeat of Tupac Yupanqui at the end of the 15th century; then, in the sixteenth century, to the attempts at conquest of the Spanish conquistadors, who had just overthrown the Inca Empire (and at the same time subjugated the Picunches) and found facing them the other Mapuches established between the Aconcagua valley and the center of the island of Chiloé.

The Mapuche had to face the expansion of the Inca Empire or Tawantisuyo, whose thrust was felt from the fifteenth century, with the extension to the south of the southern region of Collasuyo, one of the four regions or rumbos

The Incas called Promaucaes or Purumaucas or even purum aucca these populations not yet subject to their empire. They began by placing under their tutelage some peoples of the Valley of Chile, who henceforth had to pay their tribute. The war to which this campaign gave rise in the south opposed, south of the Maule river, 20,000 Incas of Yupanqui and an approximately equal number of Mapuches. The Picunches tribe, named Promaucaes by the Spaniards, having heard of the arrival of the Incas, concluded an alliance with the Antallis, the Cauquis and the Pincus.

The Incas sent emissaries to parley and bring the Promaucaes to recognize Túpac Inca Yupanqui as sovereign. The Promaucaes, however, preferred to fight and will face the Incas for three days, an event known as the Battle of the Maule. The battle caused a large number of deaths on each side, without either of the two armies emerging victorious. On the fourth day, it was decided not to compete. The Promaucaes withdrew from the battlefield, singing victory. The Incas, who had initially considered prolonging operations and pursuing their adversaries, in order to ensure the conquests achieved so far, finally resolved not to push their advance further, but to confine themselves to fortifying their positions and to administer the territories already conquered by them further north, where the new vassalized peoples accepted with good grace the Inca tutelage and will be able to derive benefits from it.

The chronicles still mention that in the decade 1520, the two sons of the Inca Huayna Cápac, Huáscar and Atahualpa, fought over the Empire in a bitter civil war, which will contribute to weaken the Inca army on the Mapuche territory, forcing them to abandon their positions and to fall back further north to defend the rest of the territory conquered shortly before under more secure conditions.

Their main economic activity was agriculture, practiced according to a system of shifting agriculture. They were also engaged in raising llamas and were familiar with stoneware pottery.

The Mapuche (or Araucans) never formed a united people, but rather presented themselves as a juxtaposition of tribes speaking a common language, the Mapudungun. The concept of the Mapuche nation did not begin to emerge until the end of the 19th century, during the process of conquering the Mapuche territories by Chile and Argentina.

The territory claimed by the Mapuche is called by them Mapuche Wallontu Mapu, or more simply Wallmapu ('surrounding, surrounding land'), and is divided into two parts, separated by the Pire Mapu (or Andes cordillera): the Ngulu Mapu and the Puel Mapu. These two parts are in turn subdivided into portions of territory called fütanmapus (or butanmapus), which coincide to a certain extent with the butanmapus (military confederations) of the Arauco war.

The main Araucanized peoples are listed as follows:
 * the Chonos: living south of Chiloé (Chonos archipelago), they were taken by missionaries to the islands and adopted the Huilliche way of life. It is conjectured that the Payos may have been later Mapuchized Chonos.

* the Poyas, including the Vuriloches, later "poyuche": they lived, and their descendants still inhabit, the mountainous areas in the south of the Argentine province of Neuquén and in the north-west of the province of Río Negro, mainly.

t* he Puelches ('people of the east'): if the Mapuche gave this name to different groups east of the Andes, it is nevertheless customary in Spanish to designate by this term those who themselves call themselves gününa küne . They were grouped into extended families, headed by a cacique.

Families practiced monogamy, although caciques and important individuals were allowed to have multiple wives. They were tall and long in face, which they used to artificially deform in their babies.

Their way of life was nomadic and their main diet was obtained from guanaco and rhea, which they hunted with bow and arrow and by means of boleadoras. On the other hand, they gathered roots and seeds and knew how to prepare alcoholic drinks. They took shelter in toldos (tents) made of skins, and their garment was the quillango, a pelisse made from the skin of the guanaco, the hair turned inward, which they decorated with geometric designs on its outer face. They tied their hair with a headband and wore leather moccasins. They also used to paint their faces on certain occasions.

* the Ranqueles (rangkülche, 'people of the canes' or 'people of the reed'): the Ranquels arose from the Mapuchisation of groups apparently linked to the Puelches. In the nineteenth century, especially during the time of the cacique Calfucurá, they played a very active role in wars and incursions against the Argentine population in the province of Buenos Aires.

* the Tehuelches: they lived in Patagonia, north of the Strait of Magellan, mainly in what is now Argentinian territory. The Mapuche referred to all the Tsoneks, called Patagons by the Spaniards, by the name of Chewelche, "valiant people", because of the resistance they opposed to the Mapuche expansion east of the Andes. Their socio-political structure was lineage, that is to say, based on the recognition of lineages, each led by a chief, and relied on shamans. Their simple religious beliefs postulated the presence in their world of benevolent spirits causing joy and evil spirits causing harm and disease. They buried the dead, and with them their possessions, in graves dug in the ground or in caves which they covered with stones. Their economy depended on guanaco and rhea hunting, for which they made use of their famous boleadoras, and the gathering of all types of roots and wild seeds. They dressed in guanaco skin capes tied at the waist with a headband, and covered their feet with a sort of very thick leather moccasins.

Some authors classify the Patagons as a Mapuche branch; others, on the contrary, consider that cultural differences, such as p. ex. linguistic ones, between Patagons and Mapuches are cripplingly important. It is certain that the relationship between Tehuelches and Araucans was a continually belligerent one. The northern Tehuelches, inferior in number and in combat tactics, had no other way out, faced with the Mapuche invasion of Comahue and the Pampean region, than to fall back towards the south; most of the survivors who remained there will be acculturated.

Spirituality

The NGUILLATUN, during which prayers are said to NGUENECHEN, the lord of the Indians, "owner of the people", is among the most famous. During this celebration, they perform several rites including the so-called loncomeo dance. One of its figures was the choique purrún, in which the dancers imitated the movements of the rhea or choique.

The intervention of the machi or shaman, a sort of doctor or witch, was essential. She was responsible for healing using herbs and other procedures such as spells, animal sacrifices, and puffs of smoke. The ceremony was performed in a valley, where they raised an altar which they called a rehue with stakes or canes planted.

The colors of the nguillatúns are blue (from the sky) and yellow (from the sun). Sometimes they also used green (grass).

Indigenous musical instruments

The inhospitable climate and the struggle to survive in this land covered in snow for so many months give the music a painful character where passion is cruel and hopeless. Passion cannot even be expressed by crying or by love. This is the reason for the simplicity of their musical instruments and the fact that Araucano music is loaded with moan and anguish.
They used several musical instruments: cultrun, trutruca, pifilca, Ã ± orquin, quinquer-cahue or araucano violin.

Cultrun: drum made from a hollow piece of wood, in the shape of a timpani. It is lined with well-kept horse skin. It is beaten with a single stick, the handle of which is decorated with colored threads.

Pifilca: wooden or bone flute. It is short and sounds like a whistle. They hang it around their neck with a string. Currently, it is carved into pieces of wood from 30 to 40 centimeters. The lower end of the tube is closed and the holes are opened halfway along its length. It emits only one sound and that single note is mixed throughout a song or instrumental piece without any rhythmic or melodious relationship to the rest.

Trutruca: This instrument is made with a colihue rod with a length of up to four meters. It is cut in half to make it hollow. Then the two halves are tied with a woolen thread and they are wrapped in horse guts. A cow horn is placed at one end and it is blown through the opposite end. Its sound is like the roar of a bull and it represents the strength of the tribe. It is one of the two kinds of large aerophones existing in our country (the other is the erke)

Quinquercahue: it had two arches (usually made of rib bones) completed by a single horse's mane cord. It was played by placing one of the arcs - the body of the violin - against the upper incisors with the left hand. The right hand, in turn, passed the string of the other arch, that of the violin, over the previous one, thus producing a plaintive and painful sound.

Lolquin: similar to trutruca but much smaller. It is made with thistle cane, called troltro.

Clarin: he was known when the Spanish arrived and imitated with local materials (vegetable cane and wood)

Cullcull: It was the bugle used as an alarm in case of emergency or war. It was made with ox horns.

Pinquilhue: since ancient times, it was a kind of flute made with the stem of the colihue

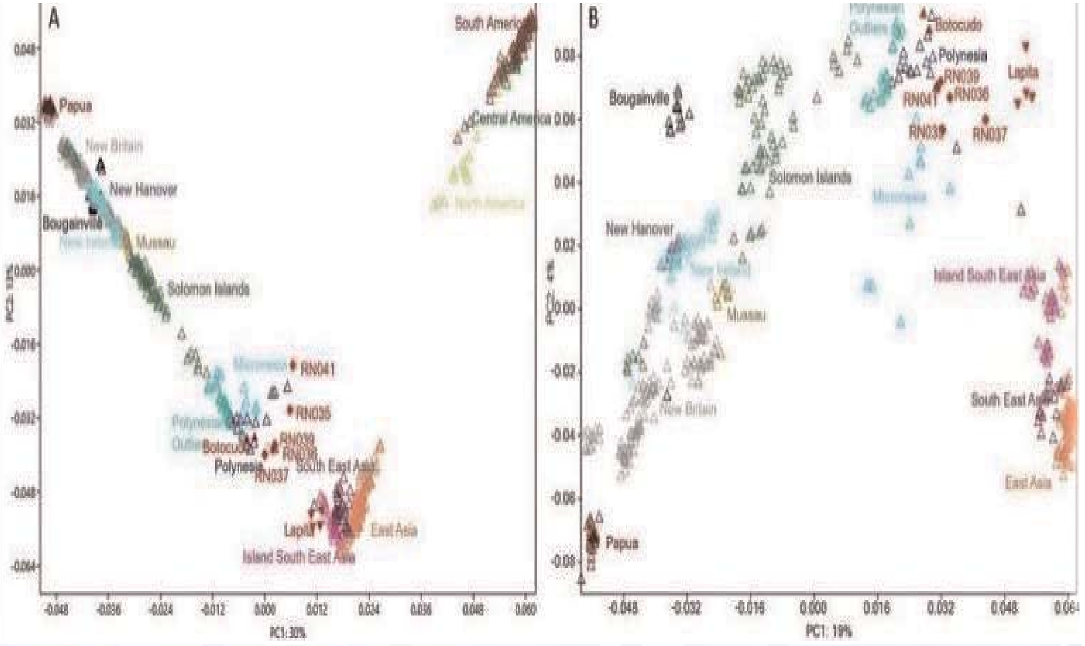
Caquel cultrum: it is a drum made with the hollow cut of a log.

Huala: kind of maraca, made with a gourd that sounds with dry seeds and sometimes small pebbles inside.

Cada Cada: large shells that ring by rubbing their edges and striped faces. Several of the aforementioned instruments are usually played together during ritual ceremonies: nguillatunes and machitunes.

Ancient genomes on Easter Island

Easter Island (Rapa Nui) plays a central role in the debate on possible pre-European contacts between Polynesians and Native Americans. The discovery of sweet potatoes in Polynesia around the year 1000 is a strong argument in favor of such contact. In addition, a recent study on the genome of current inhabitants of Easter Island showed that they had approximately 6% of Native American ancestry. Paleo-geneticists have just published a paper entitled: Genetic Ancestry of Rapanui before and after European Contact. They analyzed the genome of 7 skeletons from Easter Island, part of which dates from before the arrival of Europeans in 1722. The authors obtained results for five of these ancient individuals, three of which date from before arrival. Europeans, and the last two according to:



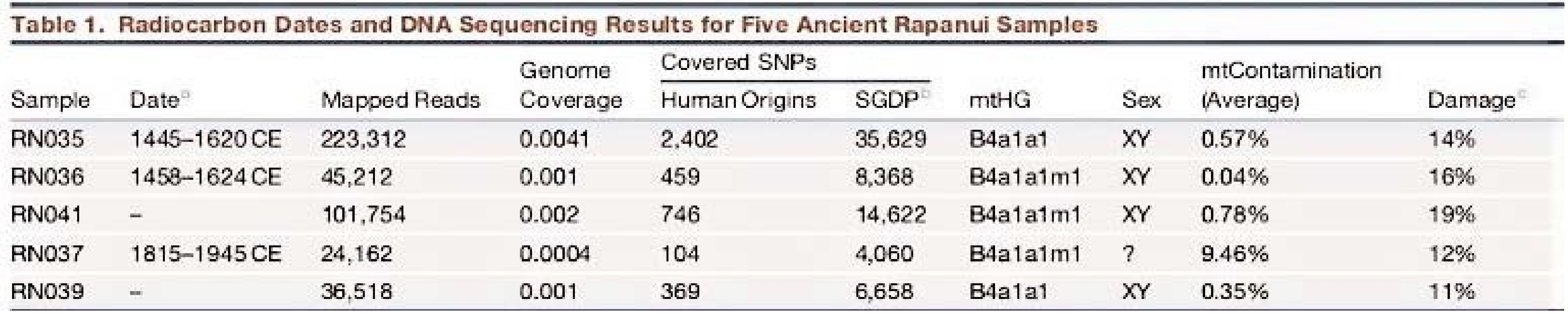


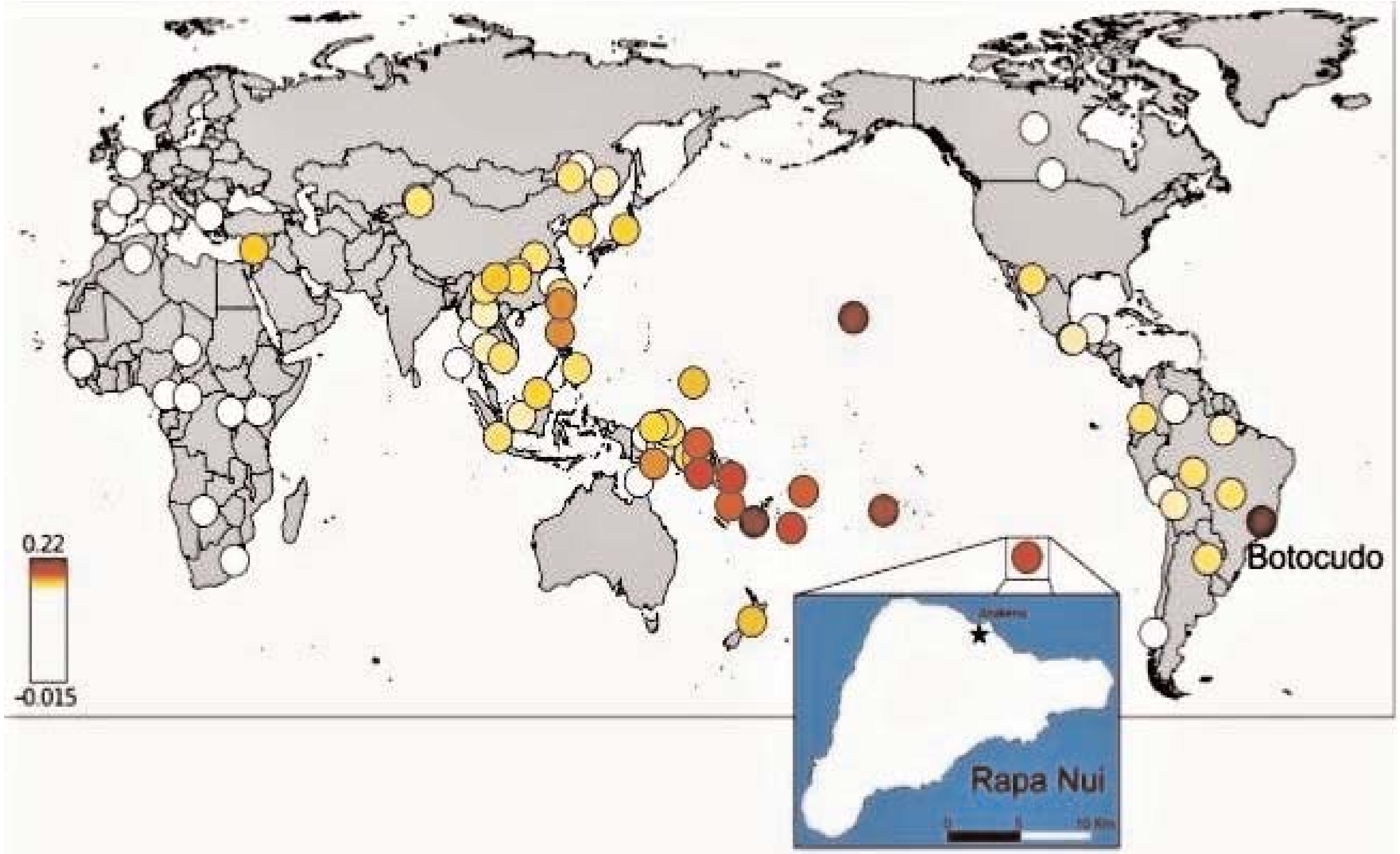
Table 1. Radiocarbon Dates and DNA Sequencing Results for Five Ancient Rapanui Samples

			Genome	Covered SNPs				mtContamination	
Sample	Date[a]	Mapped Reads	Coverage	Human Origins	SGDP[b]	mtHG	Sex	(Average)	Damage[c]
RN035	1445–1620 CE	223,312	0.0041	2,402	35,629	B4a1a1	XY	0.57%	14%
RN036	1458–1624 CE	45,212	0.001	459	8,368	B4a1a1m1	XY	0.04%	16%
RN041	–	101,754	0.002	746	14,622	B4a1a1m1	XY	0.78%	19%
RN037	1815–1945 CE	24,162	0.0004	104	4,060	B4a1a1m1	?	9.46%	12%
RN039	–	36,518	0.001	369	6,658	B4a1a1	XY	0.35%	11%

Four of these five individuals are men. The sex of the fifth individual could not be determined. All of these individuals carry the typical Polynesian mitochondrial haplogroup: B4a1a1.

The authors then performed a Principal Component Analysis to compare these ancient individuals from Easter Island (red diamonds below) to current populations and to two ancient individuals from Botocudo in Brazil (red triangles facing up) but bearing a Polynesian ancestry and ancient individuals of the Lapita culture (red triangles facing down) in Oceania:

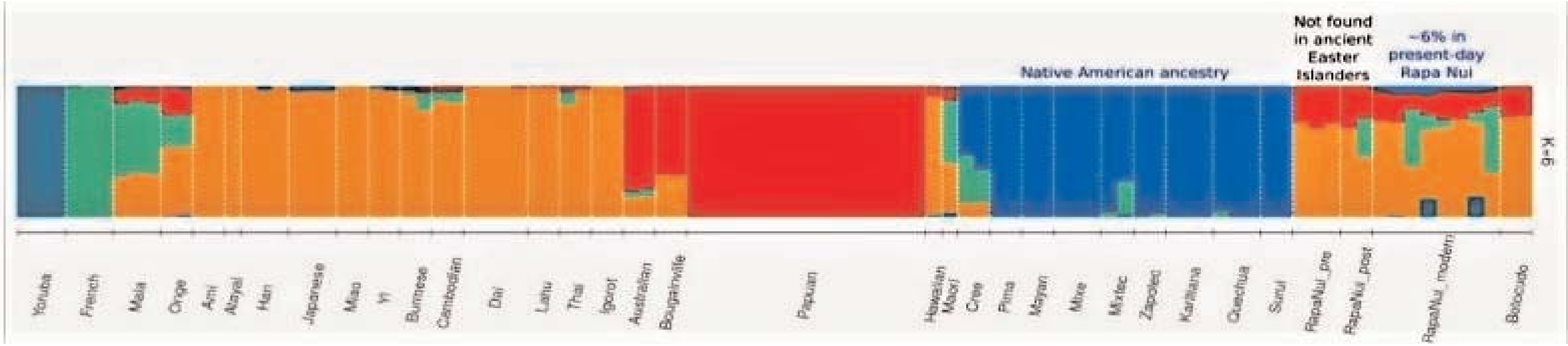
The results show that the ancient individuals of Easter Island cluster with the ancient and current Polynesians. These results are confirmed by the f3 statistic as shown in the figure below:



Thus the three ancient individuals of Easter Island dated before the arrival of Europeans have about 80% of Asian ancestry (in orange) and 20% of Papuan ancestry (in red) in a similar way to the current Polynesians and to the former individuals of Botocudo. They do not have Amerindian ancestry (in blue) unlike the current inhabitants of Easter Island (RapaNui_modern) who have between 5 and 9%. One of the two ancient individuals from Easter Island dated after the arrival of Europeans has about 20% of European ancestry (in green).

The authors then performed an analysis with the ADMIXTURE software, the optimal results of which were obtained for K = 6. Below the former individuals of Easter Island are RapaNui_pre (dated before the arrival of Europeans) and RapaNui_post:

In addition, the D statistic confirms that the ancient individuals of Easter Island dated before the arrival of Europeans do not have Native American ancestry.



Native American ancestry among the Rapanuis of Easter Island

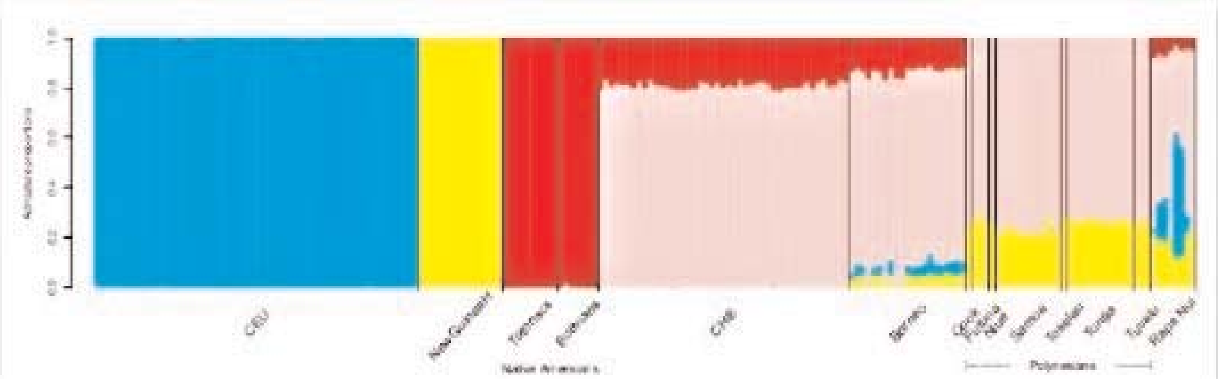
Polynesia is defined by the Pacific Islands which stretch between New Zealand to the south, Hawaii to the north and Easter Island (Rapa Nui) to the east. The latter is located 3700 km west of South America. It has an area of 163 km2. It is now accepted that Polynesia was colonized following the Austronesian expansion which originated in Taiwan and the Philippines about 5000 years ago. This is characterized by a linguistic identity, a specific culture called Lapita and a particular type of boat. The colonization of Tonga and Samoa was estimated around 800 BC. JC. and all of the Polynesian Islands between 1200 and 1300 AD. Easter Island was thus colonized around the year 1200 by a population estimated between 30 and 100 individuals.

The Rapanuis are distinguished by a specific archaeological culture made up of giant stone platforms (ahu) on which are placed monumental stone statues (moai). About 900 statues are recorded on the island.

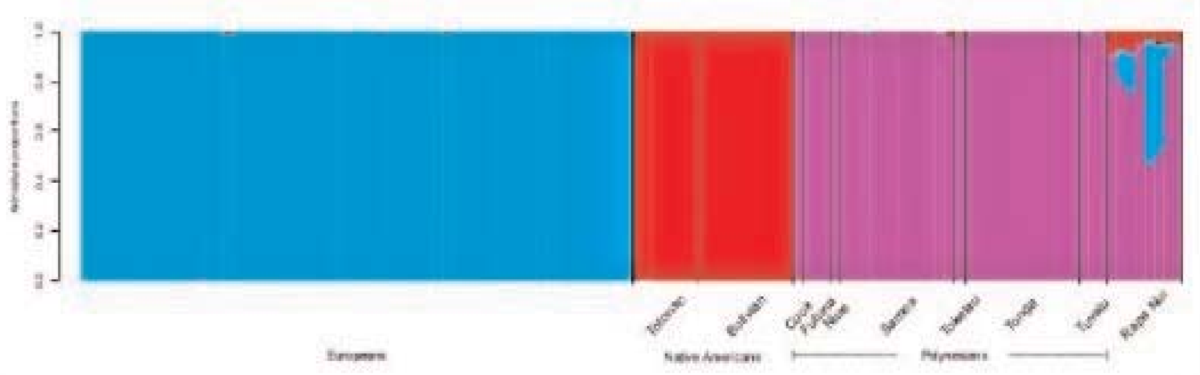
Easter Island was discovered by Westerners on Easter Sunday in 1722. This contact started a dramatic period in the history of the Rapanuis including in particular the exposure of the natives to diseases brought by Westerners, then the slave trade by the Peruvians in the 1860s. It was estimated that the population of the island, estimated at the arrival of the Westerners at around 4000 individuals, declined to reach only 110 inhabitants. A consequence of these contacts was also the introduction of gene flow into the native population.

The precise origin of the Rapanui population remains elusive. Indeed, if the Austronesian dispersal did reach Easter Island, certain indications suggest contact with the Amerindian populations, in particular the presence of crops such as sweet potatoes or calabashes before the arrival of Europeans. On the other hand, remains of chickens with a Polynesian genetic signature have been found in Chile and are dated before the arrival of Europeans.

Paleo-geneticists have published a paper entitled: Genome-wide Ancestry Patterns in Rapanui Suggest Pre-European Admixture with Native Americans. They analyzed the genome of 27 Rapanuis individuals on more than 650,000 autosomal SNPs. These data were compared to genomes of individuals from other populations: Europeans, Papuans of New Guinea, Amerindians, Asians and other Polynesians.



The authors used the ADMIXTURE software. The figure below gives the result for a value of the parameter K = 4. The European component is in blue, the Papuan component in yellow and the Amerindian component in red. Polynesians are composed of a majority ancestry in pink and a minority Papuan ancestry:



The Rapanuis are on the right of the figure. Although broadly similar to Polynesians, they contain a small proportion of Native American ancestry in red and European ancestry in blue.

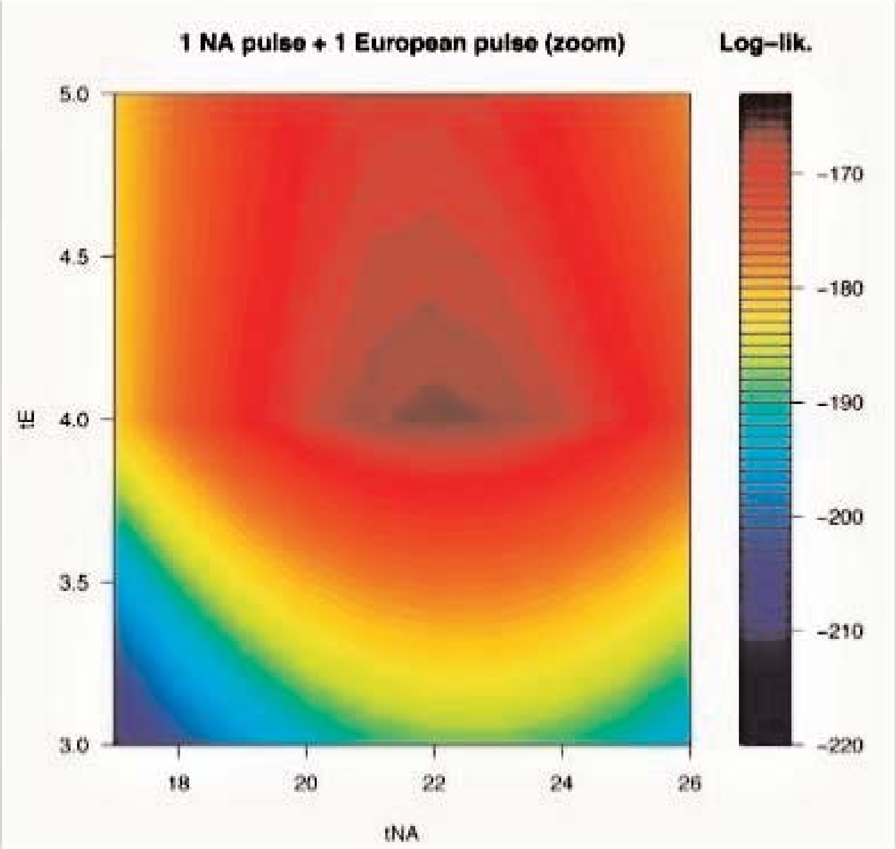
The authors then restricted the populations to Europeans, Native Americans and Polynesians. The ADMIXTURE software for K = 3 then gives the following result:

Native American ancestry among the Rapanuis is then 6% on average and European ancestry around 16%. However, Amerindian ancestry is more homogeneous than European ancestry among the Rapanuis, probably a sign of greater seniority.

This Native American ancestry among the Rapanuis does not mean that there was pre-Colombian contact between Easter Island and South America. For this, it is necessary to date the Amerindian and European genetic mixtures among the Rapanuis. The authors thus used the RFmix software. They showed that Native American DNA segments in Rapanuis are shorter than European DNA segments, thus indicating a greater antiquity of the Native American genetic mix.

The authors then modeled the Amerindian and European genetic mixtures in the Rapanuis and determined the probability of the length distributions of Amerindian and European DNA segments as a function of the genetic mixing times in the Rapanuis. The figure below gives this distribution as a function of genetic mixing times:

These results show that the contact between the Rapanuis and the Amerindians dates from before the arrival of Europeans on Easter Island. However, it is not known how this genetic mixture came about. There are two possible scenarios: Native Americans sailed to Easter Island or Polynesians went to South America and returned to Easter Island. The second scenario is however the most probable, if one considers the aptitudes of the two populations to navigation.



EASTER ISLAND

The disappeared civilization, the Pascuan population, at the time of the discovery of the island, is divided into a dozen different clans over which a king reigns. The first of them would have been a certain Hotu Matua, who came with his wife and his companions from another Polynesian atoll in the grip of war.

In the 1950s, the Norwegian navigator, Thor Heyerdahl argued that the first inhabitants of this land were the descendants of Peruvians (so-called long-eared men) and that a second wave of immigration reached Polynesia just before the discovery. from the island. What evidence do we have, other than this story, to support the Inca contact theory?

Peruvian historian José Antonio del Busto puts forward more than thirty pieces of evidence to support his idea. Among others:

* There is in Mangareva (as well as on the Marquesas Islands) an interesting legend, speaking of a king named Tupa, who arrived from the east on sailing rafts, bringing goldsmiths, ceramics and textiles.
* The son of the Great Inca, on Easter Island, would have called himself "Mahuna-te Ra'a", which means "son of the sun" ... Which joins the classic names specific to the Incas and their beliefs according to which the Inca chiefs are the descendants of the sun god.
* It is also said that on his return to Peru, Tupac Yupanqui brought back black-skinned people and unknown objects then kept in the Sacsayhuaman fortress.

* A Rapa Nui myth tells that one day, navigators of unknown origin and culture arrived on Easter Island. These were physically very different: larger and more robust, they also had more stretched earlobes ... This last physical trait bringing them closer to the Incas of high society.
* Pushing this legend a little further, one could consider the last Moaïs as representations of the Incas: tapered nose, thin lips, prominent chin… typical features of the Incas! * * The pukao would represent the Inca llautu: a turban that only the Inca and his guard can wear, an elite sign in the same way as the elongated ears.
* According to the French historian Jean Hervé Daude, the platforms (ahu) of Vinapu are built according to the same model as the "Chullpas de Sillustani" of Lake Titicaca in Peru and the walls of Cuzco.
Unfortunately, the wall of the Ahu Tahira was damaged with dynamite by the crew of the USS Mohican in 1886, in search of gold and precious materials (to finally find only a few bones…).
* For the archaeologist Sergio Rapu, the eyes of the Moaïs constitute a link between the Rapa Nui and Inca cultures: the technique behind these obsidian and coral eyes is also found among the Mochicas.
* Genetic studies, conducted by Jean Dausset, would argue that the ancient Rapa Nuis have the same DNA as the South American natives. But this genetic study has been controversial: more recent DNA studies link the Easter Islanders with the Polynesians. And, genetically speaking, the latter are closer to Asians than to South Americans. But this thesis hardly meets with echo today. The only certainty with regard to the Easter Islanders seems to be their kinship with the Polynesians.

About thirty sovereigns succeeded Hotu Matua until 1862. A second king, or military leader, is also chosen each year, after a religious ceremony dedicated to the head of a Bird-Man in the spring. The resources and the configuration of the island explain that the Pascuan society is formed mainly of fishermen and farmers. Very hierarchical, it is continually plagued by violent struggles, and cannibalism is a common practice. But it was a great raid of slaves in 1862, by Peruvian slave traders, which dealt it a fatal blow by decimating almost all of its inhabitants. Today the original Pascuans have practically disappeared, and Easter Island, with around 2,000 inhabitants, is no more than a department of Chile, which annexed it in 1888.

It still remains enigmatic and it is not possible to say with certainty whether they are buildings erected in honor of the dead or idols. Some authors believe that these statues would have had the mission of watching over the island, but the fact that these statues are turned towards the interior of the land, and not towards the sea, does not make this hypothesis credible. Are these vestiges of a lost continent? The current Easter Islanders, more or less mixed, say that these statues represent powerful ancestors, initiates and holders of mana, a particular mental power. Several experts support the thesis that the MOAIs were built by the heirs of Lemuria, a highly civilized world equivalent to Atlantis, but located in the Indian Ocean.

Others see in it the vestiges of the advanced civilization of Mu, and finally a third hypothesis, would be that the island of Passover would have been a kind of outpost of the Atlantean civilization in the Pacific.

Are they Celestial visitors?
What allowed some very imaginative authors, to see there the influence of highly evolved extraterrestrials, and come to initiate the natives in the past. For them, the MOAI would therefore be a representation of these space visitors ... gigantic statues, called "moai".

Let's come back to earth! The Rapanuis, natives of Easter Island, embarked on megalithic construction shortly after their arrival in the 13th century. They made a total of nearly 1,000 statues (moai), of which 400 still lie, as abandoned, in their original quarry of Rano Raraku. Hundreds more have been moved and installed on rectangular stone terraces (ahu) spread across the island, usually near the coast. Between the 18th and 19th centuries, all the statues placed on ahu were overturned, supposedly during clan wars. Since then, a small number of them have been re-trained on their platform.
The latest scientific studies say that the monoliths were sculpted to promote soil fertility and agriculture. And not just from a symbolic point of view. The researchers' work focused on two monoliths located in the interior region of the Rano Raraku quarry which is the source of 95% of the island's 1,000 moai. Further analysis shows traces of foods like bananas, taro, and sweet potato. A proof, according to the researchers, that the place served both as a quarry and as a place of agricultural production. Why were the enigmatic statues of Easter Island placed there, along the coast? Researchers give us a clue: water.

Surprising for an island where no river flows ... The monoliths of Easter Island were erected near water sources, particularly precious on this land without rivers. Because groundwater is the only possible water reserve on the island.

From there, the relationship between statue and water source since water is life

THE MOAI

Standing there, motionless, for hundreds of years, the Moai have become a symbol of Rapa Nui, better known as Easter Island. But why and how were these enigmatic sculpted monoliths erected? While specialists agree that the statues bear witness to a certain human ingenuity, the mystery is far from being resolved.

Several theories have been put forward to justify the construction of some 1,000 Moai by the Rapanuis. One of them, published in early 2019 in the journal PLoS One, suggests that the location of the colossi would have served to indicate the island's precious water sources. Today, however, it is a completely different hypothesis that researchers advance in the Journal of Archaeological Science.

According to their study, the exploitation of the rock and the construction of the giants were actually aimed at promoting soil fertility, agriculture, and therefore food production on these isolated lands some 3,500 kilometers from the coast of Chile.

The most fertile soil on the island

This conclusion is the result of five years of excavations carried out in the quarry of the Rano Raraku volcano. This site is considered to be the origin of 95% of the Moai and some are still found there. While excavating the place, scientists unearthed two giant statues, one on a pedestal and the other in a deep hole, buried under the ground and rubble.

The analyzes carried out made it possible to estimate that the colossi would have been erected between 1510 and 1645 while the activities in this part of the quarry would have started around 1455.

More importantly, the researchers found that the sculptures were in a position suggesting that their destiny was to stay there and not to be transported, like others, to the rest of the island.

What purpose ? Analyzes of the surrounding soil brought an unexpected lead. The results revealed the past presence of crops of bananas, taro and sweet potatoes. They also indicated that the soil at this same location was particularly rich in various elements. "When we got the test results, I had to take a second look," said Sarah Sherwood, co-author of the study.

"There were very high levels of elements that I never thought I would find here, such as calcium and phosphorus. Soil chemistry has shown high levels of elements key to plant growth and essential for plant growth. obtain important productions ", continued the geoarchaeologist in a press release.

A quarry and productive agricultural area
According to the team, the soils of Rano Raraku are probably the richest on the island and certainly for a long time. The quarry would not therefore have been used simply to extract rock and sculpt the Moai but also to grow crops essential for the survival of the inhabitants. Two activities that would be closely linked, says the study.

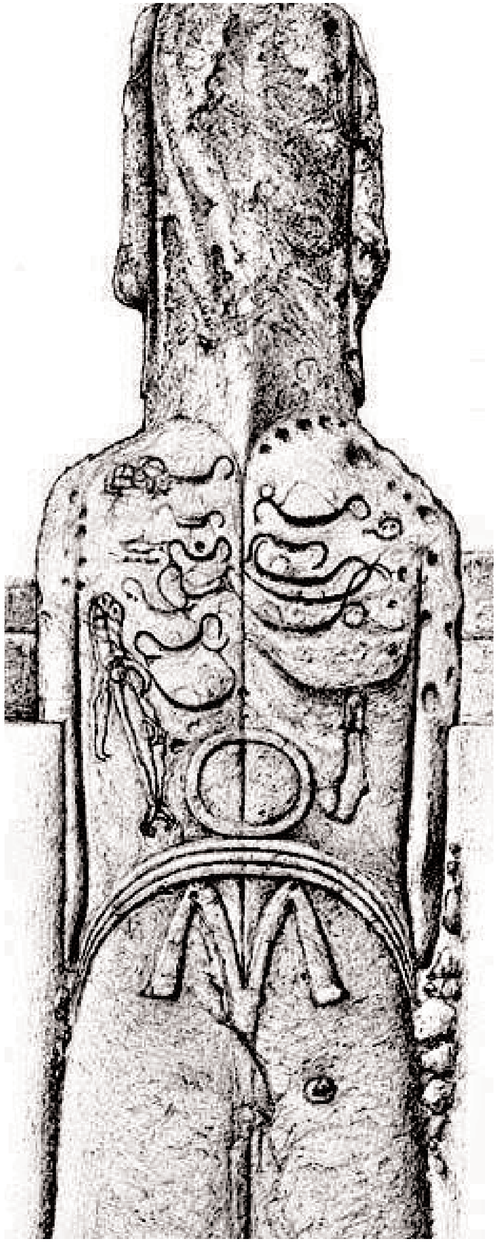
If the soil has become so rich, it would indeed be thanks to the process of extracting the local rock, volcanic tuff. "In the quarry, the constant flow of small rock fragments generated by the mining process allowed a perfect return system of water, natural fertilizers and nutrients," said Sarah Sherwood.

In addition to this activity, the people of Rapa Nui would have had the good intuition to plant various crops in the same place, which would have further encouraged soil fertility. Once completed and installed on site, the Moai would have served to maintain the sacred nature of the quarry itself.

"The Moai were at the center of the idea of fertility and, in Rapanui belief, their presence here stimulated agricultural food production," said Jo Anne Van Tilburg, director of the Easter Island Statue Project, which has been working on it for over thirty years. the Chilean island. "This study completely disrupts the idea that all the standing statues of Rano Rarku were just waiting to be transported out of the quarry."

These works constitute, according to their authors, the first scientific proof that the quarry represented a complex landscape and that there were links between soil fertility, agriculture, the exploitation of the quarry and the sacred nature of the Moai.

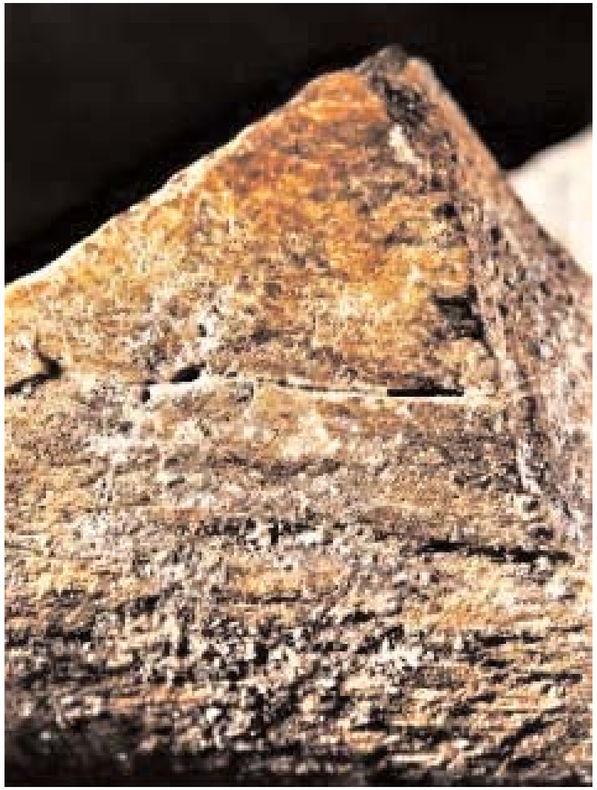
Nevertheless, the enigma of the giant statues still contains many gray areas. For example, three of the giant statues have, on their backs, engraved designs that do not exist on any of the 1,000 others listed across the island and whose meaning remains unclear. Jo Anne Van Tilburg and her colleagues have started a new study to analyze the engravings and try to unravel their secret.



BACK TO THE ETERNAL BEGINNING OF THE ORIGINS

Humans have been in America for 130,000 years
The discovery in San Diego, California of 130,000-year-old mammoth bones believed to have been broken by human hands pushes back more than 100,000 years the generally accepted date of the arrival of the first humans in America. The details of this discovery, which is sure to arouse skepticism, are published in the journal Nature.

The remains of a mastodon with traces of butchery prove that stone tools were used 130,000 years ago in North America.



In 1992, during a project to extend a Californian highway, paleontologists from the San Diego Natural History Museum were called in to examine bones that the excavators had just brought to the surface. The remains are identified as belonging to a cousin species of the mammoth, the mastodon. In the middle of the fossilized bones, the researchers unearth broken molars and a tusk, but also large stones arranged in an unnatural way. For the geologist Tom Deméré it appears that "the geological process which had little by little deposited the silt on the bones could not, on the other hand, have transported the stones", explains. Their presence around the bones suggested that someone brought them there ...

In 1992, palaeontologists from the Museum of Natural History in San Diego, Southern California, unearthed the fragments of this mammoth in the middle of a highway construction site. Buried under three meters of sediment, the bones, tusks and molars of this mastodon were found gathered near stone tools resembling hammers and anvils.

According to the researchers, the "spiral fracture planes" of the bones and molars indicate that they were shattered under the impact of blows from a stone tool, while they were still fresh. In addition, several bone specimens and stone tools show traces of percussion and are surrounded by fragments of bone and stone presumably from the pounding of their surface with the stone hammer, Richard said during a press conference call. Fullagar, a geoarchaeologist at the Center for Archaeological Science at the University of Wollongong, Australia. For the paleontologists who participated in the study, the traces etched in the artefacts cannot be attributed to erosion, trampling or gnawing of bones by animals, or even to carnivores that they believe were unable to breaking the fresh femur of a mammoth.

To confirm their hypothesis, the researchers set about breaking the bones of an elephant - which belongs to a species related to mammoths - which had died of natural causes using large rocks in the rough shape of a hammer. . "We were thus able to reproduce exactly the same fracture patterns that we observed on the mammoth bones found on the Cerutti Mastodon site," said the first author of the article Steven Holen, director of research at the Center for American Paleolithic Research in South Dakota. "This is a very old technology that was used by the people of Africa 1.5 million years ago to extract and eat marrow from bones and to make tools. And when humans came out of Africa and traveled the world, they continued to use this technology and thus spread it around the world. "

Stone hammer found next to broken bones

In 2014, when paleontologists were convinced that the bone and stone fragments they had discovered had indeed been shaped by humans, they called on geologist James Paces of the United States Geological Survey to inquire about it. 'he estimates the age. As the bones no longer contained collagen, he was unable to use the carbon 14 dating method. Paces then turned to the "uranium series imbalance method", which revealed that bone fragments and stone tools were buried in sediment 130,000 years ago.

Stupefaction

This result literally stunned the study's researchers, given that the oldest remains of the presence of humans in America to have been discovered so far dated back to no more than 24,000 years. Nevertheless, in their eyes, all the evidence found in the field makes their hypothesis indisputable. In a commentary published in the same edition of Nature, Erella Hovers of the Institute of Archeology at the Hebrew University of Jerusalem, Israel, and the Institute of Human Origins at Arizona State University, also said that "the evidence from the Cerutti Mastodon site which has been rigorously documented will be difficult to refute".

Researchers have less confidence, however, as to the origin and species of these men who likely lived in America 130,000 years ago. "As the last interglacial period began, the Beringian land bridge connecting Asia to North America was starting to flood due to rising sea levels," notes Steven Holen. If these first humans came on foot, then they must have arrived in Alaska over 130,000 years ago. Otherwise, they were able to reach America by boat crossing a strait of 80 km at most. We have evidence that the first humans used boats very early on, most notably reaching Crete in the Mediterranean over 130,000 years ago and the island of Sulawesi in Indonesia between 118,000 and 194,000 years ago. "

According to Richard Fullagar, representatives of three different species of the genus Homo were able to reach northern California 130,000 years ago. It may be Neanderthals (Homo neanderthalensis), whose bones and tools dating back 130,000 years have been found in various parts of Siberia, or Denisovans (Denisovan hominids), whose presence has been confirmed by genetic analyzes of a finger phalanx found in the Altai Mountains, between Russia, China, Mongolia and Kazakhstan. Homo erectus is also a candidate since remains dating at least 1.4 million years old have been unearthed in China. "Although it is not known when Homo erectus became extinct in East Asia, the most recent vestiges of this species which have been discovered in Java date back to around 140,000 years ago", specifies Mr. Fullagar, before d 'add that "no remains of Homo sapiens dating back 130,000 years have been discovered in Siberia, only teeth between 80,000 and 120,000 years old have been unearthed in China."

When researchers are pointed out that their discovery contradicts genetic studies of the indigenous peoples of North America indicating that their ancestors of Asian descent arrived on the new continent about 23,000 years ago, they argue the hypothesis that the humans who broke bones and fashioned stone tools in California 130,000 years ago were part of a group that has likely gone locally. Paleontologists at the San Diego Museum of Natural History now plan to excavate sites dating back 130,000 years that they had never been interested in before their discovery.

Men in America 130,000 years ago?

The colonization of the American continent is the subject of heated debate. Or exactly it is the date of arrival of the first men in the Americas that poses a problem. It was mostly accepted until now that the human presence on the American continent was attested for 14 to 18,000 years. In addition, for several years, many archaeological sites presented much older dates which questioned the scientific community. One can quote for example the site of Pedra Furada in Brazil which presents cave paintings on a site dated between -35 and -45,000 years, but also the caves of BlueFish in North America which could go back to - 25,000 years.

A new study of mastodon bones

In the new study published in the journal Nature by Judy Gradwohl (San Diego Museum of Natural History) researchers took a thorough look at the bones found in 1992 that were held by the museum.
With the latest technological advances, the team of scientists was able to date the bones and stones nearby. This radiocarbon dating method measures the decay of uranium which turns into thorium. The measurement of their respective rates makes it possible to estimate their ages applied to the bones of mastodons. This method made it possible to date them from -130,000 years ago, which is not illogical for these animals at that time and in the region.

The team then looked at the fossilized remains in themselves. The bones had indeed breaks which cannot be due to carnivores or ground movement. The bones were intentionally broken, perhaps even with the help of the stones that were around. The latter could have served as a mass and an anvil as the researchers were able to observe by carrying out archaeological reconstructions.
In addition, the examination of the fractures clearly indicates that the bone was fresh when it was broken as indicated by the team "" Within 9000 years, these bones, which were still fresh when they were fractured with tools. stone, were buried 130,000 years ago ".

Can we speak of an anthropogenic site?

Until now, nothing indicated a human presence in America 130,000 years ago. And yet who, apart from a hominid, could have broken these bones by serving as stones as hammer and anvil? This discovery surprised the scientists themselves who carried out the measurements on several occasions, suspecting that the conclusions would be disputed ...

"It looked like an archaeological site, but it couldn't be!" Says the Museum team. "Bones and several teeth clearly prove that humans deliberately broke them with skill and experience," explains Steve. Holen, co-author of the study.

"This discovery sheds new light on our understanding of the arrival of humanity on the American continent. The evidence we found at this site indicates that one or more species of hominids lived in North America 115,000 years ago. sooner than previously thought, "said Judy Gradwohl (San Diego Natural History Museum)."
This raises several questions about how the first humans got here and who they were. "Indeed 130,000 years ago it is not yet possible to determine which species was present at the site. As potential suitors. we have Homo sapiens, the Denisovans but also the Neanderthals.

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